

A
SYSTEM
O F
RATIONAL and PRACTICAL
CHIRURGERY.

W H E R E I N

All the General Intentions, whether Natural or Artificial, are accounted for and explained; according to the Principles of the Corpuscular Philosophy, and the evident Qualities of Medicines. Together with the Causes, Diagnosticks, Prognosticks, and Method of Cure, of Tumours, Ulcers, Wounds, Fractures and Dislocations.

To which is added,

An *I N D E X* of Medicines, and their evident Qualities.

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THE
PREFACE
TO THE
READER.

THE great Advantage that all Arts and Sciences have received from Philosophy, is so well known to those, whose Curiosity hath encouraged them to enquire into it, that it would be needless for me to use any Arguments to recommend it. How much the Art of Physick hath been improved by it is evident, from the Writings of

The Preface to the Reader.

a great many learned Men, who have been industrious in applying experimental Philosophy to demonstrate the Reason of their Practice, by which they have distinguished themselves from those emperical Practitioners who know nothing but what they have seen, and received all their Knowledge in at their Eyes, without giving themselves the Trouble to enquire into the Reason of what they do. So that if any Case happens to vary from what hath been taught them by Experience, either by the Difference of the Cause, Symptoms, or Variety of Constitutions, they are altogether at a Loss, and ignorant what Method to pursue. Whereas when the Structure of Human Bodies is understood, and the Nature of those Humours contained in the distinct Vessels, and what Alterations they are subject to, and likewise how they affect one another; and also why Medicines produce the Effects they

The Preface to the Reader.

iii

they have upon them, whose Qualities they have taken Care to understand, it is no Difficulty to vary and alter their Practice according to the different Circumstances of any Case that may happen; nor can any Distemper be new, or difficult, to those who have taken Pains previously to consider the Mechanical Reasons of what may happen in Human Bodies.

And as Reason and Philosophy are serviceable in Physick, so will they be equally useful, even in Chirurgery; for though Chirurgery in a great Measure consists in Manual Operation, and it is requisite a Surgeon should have seen several Operations, before he ought to undertake them; yet when he hath seen those Cases, to understand the Reason of what hath been done, will enable him the better to undertake the Business himself, and not only to perform; but improve his own,

The Preface to the Reader.

as well as the Practice he hath seen. As in Fractures in *Cranio*, when the Skull is depressed, and occasions violent Symptoms, and it is absolutely requisite the depressed Part should be raised speedily; should I make Incision, and having dressed the divided Lips of the Scalp, with proper Medicines to stop the Flux of Blood; should I be obliged to bind it up, and wait some Hours, lest the Blood should flow in upon the *Dura Mater*, when the Skull was perforated, to raise the depressed Part; and give way to the Influx of Humours, instead of making a Discharge; the Patient in that time might be dead; but since I know that in other Cases actual Cautery will immediately stop the Flux of Blood, and that the Life of the Person is in immediate Danger; though it be common Practice to wait some time before the Trepan is made use of, yet my Reason will tell me that I may stop the Blood
at

The Preface to the Reader.

v

at once by actual Cautery, and immediately proceed to Perforation, and raise the depressed Part, without running the Hazard of those ill Consequences which might happen by Delay. I do not urge this as Practice, but as an Instance how Reason may direct me to what is not common Practice.

But Reason and Philosophy are not only useful to improve Manual Operation, but altogether necessary, where Medicines and External Applications are required; for since the Humours which circulate thro' the Vessels, as well as the Vessels themselves, are concerned, it is not only necessary to consider the Structure of the Body, but likewise the Nature of the Humours in a natural State, and what Alterations they undergo, when they occasion either Tumours or Ulcers, or how they may affect Wounds as they differ in Quantity or Quality ;
as

The Preface to the Reader.

as likewise we are to consider the Nature of Medicines, and the Reason of their Effects.

Since then the Theory may be serviceable in improving the Practice of Chirurgery, I hope the following Sheets will meet with that candid Reception which the World hath hitherto favoured me with. And I am the more apt to flatter myself with that Success, since I pretend not to instruct those who have no Occasion for it, but those who have.

I am not so vain as to think that I myself alone am able to undertake a Work of this kind, being satisfied that there are a great many ingenious Surgeons, who might have done it much better than myself; but since none of them have thought fit, as yet, to give themselves the Trouble, I hope they will not be offended if I have undertaken it.

Nor

The Preface to the Reader.

vii

Nor am I so conceited as to think my self so infallible, but that I may be guilty of some Mistakes, which I hope the ingenious and candid Reader will rather correct than blame. And if his Thoughts are better than mine, he will not be angry because he knows better than my self.

However, I have endeavoured to explain and give a rational Account, in the following Sheets, of all the Phænomena in Surgery, whether natural or artificial, according to the Principles of the Corpuscular Philosophy, and the evident Qualities of Medicines; and to make it more intelligible, I have by way of Introduction laid down a short System of that Philosophy; and to make this Book more useful, I have likewise added the most approved and orthodox Method of Practice, and shewn why the Medicines made use of produce their Effects.

And

viii *The Preface to the Reader.*

And that this Book might be the more perfect, and less liable to the Objections of those severe Criticks, who are apt to approve of nothing but their own Performances; tho' better skill'd in finding Fault, than writing any thing of their own, I have in the following Sheets consulted that approved and ingenious Author Mr. *Wiseman*; so that instead of quoting him upon all Occasions, I may say in general, that there is nothing in his Book which is not contained in this. So that this Book may not only be called *A System of Rational Surgery*, but likewise an *Abstract of his Practice*, besides the Additions I have made of my own. And I have the rather made use of his Prescriptions than substitute new ones of my own, since they have been approved and confirmed for so many Years with general Applause; containing the whole *Materia Medica* useful in such Cases. So that

The Preface to the Reader.

ix

that if any of them seem too long, the Reader having the Reason of their Operation and Effects along with them, he may be able to chuse or substitute Forms of his own, as the Circumstances of the Case requires.

To conclude, if what I have done may be serviceable to young Surgeons, and acceptable to the Candid part of the World, I have my Design.



THE



THE CONTENTS.

CHAP. I.	CHAP. II.
The INTRODUCTION.	Of the Divisions of Surgery.
	6

CHAP. I.	
O F Chirurgery in general,	Page 1
What is to be considered by a Surgeon,	2
The Usefulness of Theory,	id.
The Method proposed in the following Sheets,	3
Evident Qualities, what,	id.
The Nature of Forms and Qualities farther considered,	4
How different Qualities affect one another,	id.

PART I.	
CHAP. I.	
Of Tumours in General.	
T HE Definition of a Tumour,	7
The Causes,	id.
Their Differences,	8
— Either by Fluxion,	9
— Or Congestion,	id.
The formal Cause of Tumours,	10
How many ways a Part may be tumified,	11
How	

The Contents.

<i>How the Symptoms and Accidents of Tumours are occasioned,</i>	12	<i>Which way the Matter discussed is disposed of,</i>	id.
<i>Why Tumours made by Fluxion differ from those made by Congestion,</i>	13	<i>Why Astringents mixed with Discutients are serviceable,</i>	29
<i>The Diagnosticks,</i>	14	<i>Suppuration, when to be promoted,</i>	30
<i>The Prognosticks,</i>	15	<i>Medicines which promote Suppuration,</i>	31
<i>The Intentions of Cure,</i>	16	<i>How Suppuration is promoted,</i>	32
<i>The Nature of the Part to be considered,</i>	id.	—— <i>By Nature,</i>	id.
<i>The Nature of the Tumour to be considered,</i>	17	—— <i>How assisted by Art,</i>	33
<i>The Time, and other Circumstances,</i>	id.	<i>Why Medicines mucilaginous and emollient promote Suppuration,</i>	id.
<i>Bleeding, why requisite,</i>	id.	<i>Discutients sometimes promote Suppuration,</i>	34
<i>Purging, why useful,</i>	18	<i>Tumours, when to be opened,</i>	id.
<i>What is to be done in respect of the material conjunct Cause,</i>	20	—— <i>By Caustick,</i>	id.
<i>The Nature of Repellents,</i>	id.	—— <i>By Incision,</i>	25
<i>When to be applyed,</i>	21	<i>Fainting, how remedied,</i>	id.
<i>The manner of their producing their Effects,</i>	22	<i>Hardness, how removed,</i>	id.
<i>How anodyne and cooling Medicines assist Repellents,</i>	23	<i>After Incision what Dressings are proper,</i>	36
<i>The Use of Repellents, when to be test off,</i>	id.	<i>How Causticks form an Eschar,</i>	id.
<i>Tumour produced without a total Obstruction,</i>	id.	<i>How an Eschar is separated,</i>	38
<i>The Nature of Discutients,</i>	24	<i>What Regimen in Diet is to be observed,</i>	39
<i>Whether Astringents promote the Effects of Discutients,</i>	25		
<i>What is to be considered in respect of the Effects of Discutients,</i>	26		
<i>How Discutients produce their Effects,</i>	28	<i>The Description,</i>	41
		<i>The Differences,</i>	id.
			<i>The</i>

C H A P. II.

Of an Inflammation or Phlegmon.

The Contents.

<i>The Cause,</i>	41	<i>The Diagnosticks,</i>	58
<i>How gross Humours contribute</i>		<i>The Prognosticks,</i>	59
<i>to cause a Phlegmon,</i>	42	<i>The Method of Cure,</i>	id.

*How the Blood and Serum come
to be too thick,* id.

*The Matter of complicate Tu-
mours,* 43

The Diagnosticks, 44

The Prognosticks, id.

The Intentions of Cure, 45

CHAP. V.

Of Epinyctis and Ter-
minthus.

Their Description, 60

The Cause, id.

The Cure, id.

CHAP. III.

Of an Erysipelas.

The Description, 49

The Differences, id.

*The internal Cause of an Erysi-
pelas,* id.

What it is, 52

The external Causes, id.

The Diagnosticks, 53

The Prognosticks, id.

The Intentions of Cure, id.

*When Bleeding is most requi-
site,* 54

A Caution, 55

Discutients, when to be used, 56

*Induration, how to be preven-
ted,* 57

CHAP. VI.

Of the Inflammatory Tu-
mours of the Glands.

The Description of a Phyma, 61

The Cause, id.

*The Diagnosticks, Difference,
and Prognosticks,* id.

The Cure, 62

*The Description of a Phyge-
thlon,* id.

The Cure, id.

The Definition of a Bubo. id.

The Difference, id.

The internal Cause, id.

The Causes accidental, 63

The Diagnosticks, id.

The Prognosticks, 64

The Method of Cure, id.

*The Tumour, when to be pro-
moted, and how,* 65

*How Cupping-Glasses produce
their Effects,* id.

CHAP. IV.

Of a Furuncle, or Boil.

Its Description, 58

The Cause, id.

The Differences, id.

How

The Contents.

58	How Tumour may be promoted	66	The Diagnosticks and Progno-
59	by Medicines,	66	sticks, id.
id.	Suppuratives sometimes discuss,	67	The Cure, 75
	Bleeding and Purging, when	id.	
	proper,	id.	
er-	The Definition of a Parotis,	68	
	The Cause,	id.	
	The Differences,	id.	
60	The Diagnosticks,	id.	
id.	The Prognosticks,	69	
id.	The Cure,	id.	

CHAP. IX.

Of a Pterygeon.

The Description and Cause,	75
The Differences,	76
The Diagnosticks, Prognosticks	id.
and Cure,	id.

CHAP. VII.

Of a Carbuncle.

The Description,	70
The Cause,	id.
The Diagnosticks,	id.
The Prognosticks,	id.
The Intenions of Cure,	71
The Nature of the antecedent	
Cause,	id.
The Reason of the Symptoms,	id.
Bleeding, Purging, and Alexi-	
pharmicks, why proper,	72
what is to be done in respect	
of the conjunct Cause,	73

CHAP. VIII.

Of a Paronychia.

The Definition,	74
The Differences,	id.
The Cause,	74

CHAP. X.

Of a Pernio.

The Description,	77
The Cause,	id.
Diagnosticks, Prognosticks and	
Cure.	id.

CHAP. XI.

Of a Varix.

The Description,	78
The Cause, either	
— The Fault of the Humours,	78
— Or the Faults of the Ves-	
sels,	79
How Accidents or natural Cau-	
ses concur to the Production	
of a Varix,	id.
The Diagnosticks, Prognosticks	
and Cure,	id.

a

CHAP.

The Contents.

*why Astringents are proper in
a Herpes,* 88

CHAP. XII.

Of an Ecchymosis.

<i>The Description,</i>	81
<i>The Cause, Diagnosticks, and Prognosticks,</i>	id.
<i>The Cure,</i>	82
<i>Astringents and Bandage re- quisite,</i>	id.
<i>Discutients, when to be used,</i>	id.
<i>Incision, when requisite,</i>	id.

CHAP. XIII.

Of an Aneurisma.

<i>The Description,</i>	83
<i>The Cause,</i>	id.
<i>The Difference,</i>	84
<i>The Diagnosticks, Prognosticks and Cure,</i>	85
<i>The Cure of an Aneurisma oc- casioned by Puncture,</i>	86
<i>The Method of making Deliga- tion of an Artery.</i>	id.

CHAP. XIV.

Of an Herpes.

<i>How many sorts of Herpes,</i>	87
<i>The Prognosticks,</i>	88
<i>The Cure of a simple Herpes,</i>	89
<i>—Of a Herpes Miliaris,</i>	id.

CHAP. XV.

Of an Oedema.

<i>The Description,</i>	90
<i>The antecedent Cause,</i>	id.
<i>The conjunct Cause,</i>	92
<i>The Diagnosticks, Prognosticks, and Intentions of Cure,</i>	id.
<i>The First Intention,</i>	93
<i>The Second Intention,</i>	96
<i>Whether Bleeding be proper,</i>	id.
<i>Emeticks and Purging conveni- ent,</i>	id.
<i>Alteratives necessary,</i>	97
<i>The third Intention,</i>	98
<i>What external Applications are proper in the beginning,</i>	id.
<i>—In the state,</i>	id.
<i>—In the declination,</i>	99
<i>What Bandage is proper, and when to be used.</i>	id.

CHAP. XVI.

Of a Scirrhus.

<i>The Description,</i>	100
<i>The Cause,</i>	id.
<i>How the Cause of a Scirrhus is occasioned, and to what it owes its Origin,</i>	101
<i>Crudities different in Quali- ties, according to different Constitutions,</i>	102
<i>The</i>	

The Contents.

<i>The Nature of Scirrhus Hu-</i>	<i>terwards,</i>	114
<i>mours farther considered,</i>	<i>Digestives, when proper,</i>	115
102		

<i>The Nature of the conjunct</i>	
<i>Cause,</i>	103
<i>The Differences,</i>	104
<i>The Diagnosticks and Progno-</i>	
<i>sticks,</i>	id.
<i>The Intentions of Cure,</i>	id.

CHAP. XIX. Of *Noli me tangere*.

<i>The Description,</i>	117
<i>The Cure,</i>	id.

CHAP. XVII.

Of Warts and Corns.

<i>The Description,</i>	107
<i>Of Corns and their Cause,</i>	id.
<i>Their Diagnosticks, Progno-</i>	
<i>sticks, and Cure,</i>	108

CHAP. XVIII.

Of a Cancer.

<i>The Description and Cause,</i>	109
<i>The Affinity betwixt the Cause</i>	
<i>of a Scirrhous and a Can-</i>	
<i>cer considered,</i>	id.
<i>The Differences,</i>	110
<i>The Diagnosticks and Progno-</i>	
<i>sticks,</i>	111
<i>The Intentions of Cure,</i>	id.
<i>Repellents, when to be used,</i>	113
<i>Discutients, when proper,</i>	114
<i>Extirpation, when requisite,</i>	id.

<i>The manner of Extirpation,</i>	
<i>and what is to be done af-</i>	

CHAP. XX.

Of Waterish Tumours.

<i>The Difference and Nature of</i>	
<i>Waterish Tumours,</i>	118
<i>The Cause partly from the Fault</i>	
<i>of the Viscera,</i>	id.
<i>— Partly from the Fault</i>	
<i>of the Humours,</i>	119
<i>The Diagnosticks, Prognosticks,</i>	
<i>and Intentions of Cure,</i>	120
<i>Bandage, when serviceable,</i>	122

Of Hydrocele.

<i>The Description and Cause,</i>	122
<i>The Diagnosticks, Prognosticks,</i>	
<i>and Cure,</i>	123
<i>Apertion, when requisite,</i>	id.

Of a Hydrocephalus.

<i>The Description and Cause,</i>	125
<i>a 2</i>	<i>The</i>

The Contents.

<i>The Diagnosticks,</i>	125
<i>The Prognosticks and Cure,</i>	126
<i>Apertion, when necessary,</i>	127

C H A P. XXI.

Of the Scab and Itch.

<i>The Difference of the Causes,</i>	128
<i>The Temper of the Blood sometimes the Cause,</i>	id.
<i>The particular Formation of the Skin, how it contributes to the Cause,</i>	129
<i>How it is promoted by Infection,</i>	id.
<i>The Cause of the itching Pain,</i>	id.
<i>The Differences,</i>	130
<i>The Cure,</i>	id.
<i>Bleeding and Purging proper,</i>	id.
<i>Alteratives necessary,</i>	131
<i>What Externals are proper,</i>	id.

C H A P. XXII.

Of Lepra or Elephantiasis.

<i>The Description,</i>	134
<i>The Cause and Cure,</i>	id.
<i>Salivation, when necessary,</i>	135

C H A P. XXIII.

Of a Gutta Rosacea.

<i>The Description and Cause,</i>	137
<i>The Diagnosticks,</i>	id.
<i>The Prognosticks,</i>	id.
<i>The Method of Cure,</i>	139
<i>— By Internals,</i>	id.
<i>— By Externals,</i>	id.

C H A P. XXIV.

Of Flatuous Tumours.

<i>The Description,</i>	140
<i>The Differences and Cause,</i>	id.
<i>The Diagnosticks and Prognosticks,</i>	id.
<i>The Cure internally,</i>	id.
<i>— Externally.</i>	142

C H A P. XXV.

Of a Hernia.

<i>The Definition,</i>	143
<i>The Differences,</i>	id.
<i>The Cause,</i>	id.
<i>The Diagnosticks of a Hernia</i>	
<i>Intestinalis,</i>	144
<i>— Omentalis,</i>	id.
<i>— Umbelicalis,</i>	145
<i>— Ventosa,</i>	id.
<i>The Diagnosticks, Prognosticks, and Cure,</i>	id.
<i>Reduction, and what Applications</i>	id.

The Contents.

tions are proper afterwards,

146

What is to be done after Reduction and Applications,

id.

Agglutinatives internally, proper,

147

Incision, when requisite, in order to Reduction,

148

Of a Bubonocoele in Women,

149

Of a Hernia Umbelicalis,

id.

Of Ruptures in Children,

id.

CHAP. XXVI.

Of the Hemorrhoids.

Of Varicose Tumours of the Hemorrhoids,

150

The Cause either from the Disposition of the Humours,

id.

—Or the Weakness of the Vessels,

151

The Differences,

152

The Diagnosticks,

id.

The Prognosticks,

id.

The Cure, with respect to the Humours within,

153

—With respect to Externals,

154

To ease the Pain,

id.

What is to be done when they are internal,

id.

Discutients, when necessary,

id.

Astringents proper,

id.

What is to be considered in the Hemorrhoides apertæ,

155

CHAP. XXVII.

Of Fungous Tumours or Excrescences about the Anus.

The Description of a Condyloma,

157

Of a Ficus, Crystæ, and Thy-mi,

id.

Of Rhagades,

158

The Diagnosticks and Prognosticks,

id.

The Cause and Cure.

id.

CHAP. XXVIII.

Of a Phyma about the Anus.

The Description,

160

The Prognosticks and Cure,

id.

CHAP. XXIX.

Of the Tumours of the Tonsils.

The Cause,

161

The Diagnosticks and Prognosticks,

id.

The Cure,

id.

The Contents.

CHAP. XXX.

Of a Ranula.

<i>The Description,</i>	162
<i>The Cause,</i>	id.
<i>The Diagnosticks and Prognosticks,</i>	163
<i>The Cure,</i>	id.

PART II.

CHAP. I.

Of Ulcers in General.

<i>The Definition,</i>	165
<i>The Differences,</i>	166
<i>The Cause of Erosion,</i>	id.
<i>How the Humours acquire an eroding Quality,</i>	167
<i>How that eroding Quality is diversifyed,</i>	168
<i>The formal Cause of Erosion,</i>	id.
<i>The formal Cause of Wounds degenerating into Ulcers,</i>	169
<i>How external Causes concur to the Production of Ulcers,</i>	170
<i>The difference of Excrements of Ulcers,</i>	id.
<i>Whether Sanious,</i>	id.
<i>—Sordid, or</i>	id.

<i>—Purulent,</i>	171
<i>The Reason of the different Excrements of Ulcers,</i>	id.
<i>Of sanious Excrements,</i>	id.
<i>Of sordid Excrements,</i>	172
<i>Of purulent Excrements,</i>	id.
<i>The Diagnosticks and Prognosticks,</i>	173
<i>What is to be considered in the Cure,</i>	174
<i>The different times of the Ulcer considered,</i>	id.
<i>How ill Accidents are to be prevented,</i>	175
<i>The General Intentions,</i>	id.

CHAP. II.

Of a Simple Ulcer.

<i>The Definition,</i>	177
<i>The Intentions of Cure,</i>	id.
<i>—Different according to the time of the Ulcer,</i>	id.
<i>Digestives, when proper,</i>	178
<i>Why convenient in the beginning, and how Digestion is promoted,</i>	id.
<i>Detergents, when proper, and how they produce their Effects,</i>	180
<i>Sarcoticks, when to be used,</i>	id.
<i>How Nature performs her part in incarning,</i>	181
<i>How incarning is promoted by Art,</i>	183
<i>When cicatrizing Medicines are proper,</i>	184

CHAP.

The Contents.

CHAP. III.

Of Ulcers with Intemperies.

- How they differ, 185
 The Cause of a hot Intemperies, id.
 —Of a cold Intemperies, 186
 —Of a moist Intemperies, id.
 —Of a dry Intemperies, id.
 The Diagnosticks, id.
 The Prognosticks, 187
 The Cure of a hot Intemperies, id.
 —Of a cold Intemperies, 188
 —Of a moist Intemperies, id.
 —Of a dry Intemperies, 189

CHAP. IV.

Of Ulcers with Pain.

- The Cause of Pain in Ulcers, 190
 The Intentions vary according to the Cause, 191
 What Internals are proper, id.
 What Externals are proper, id.

CHAP. V.

Of Ulcers with Fluxion.

- The Causes of Fluxion, 193

- The Diagnosticks, Prognosticks, and Intentions of Cure, 194
 The Humours to be corrected by Internals, 195
 Other Intentions requisite, id.

CHAP. VI.

Of Ulcers with Hyperfarcofis.

- The Description and Cause, 196
 The Diagnosticks and Cure, 197

CHAP. VII.

Of Ulcers with Caries of the Bones.

- The Causes, 198
 How a Caries is occasioned by an external Cause, id.
 Linimentum Arcei, why safely applied to the Bones, 199
 How a Caries is produced by an internal Cause, id.
 Other concurring and accidental Causes, id.
 The Diagnosticks and Prognosticks, 200
 What Regimen in Diet is convenient, id.
 What is to be done in respect of the Caries externally, 201
 What is to be done when a Caries is superficial or deep, id.
 a 4 Rugins,

The Contents.

Rugins, and actual Cautey,
when requisite, 202

A Caution in scraping the Bone,
id.

How the Bone is to be dressed
after actual Cautey, 203

How Exfoliation is performed,
204

How Medicines promote Exfo-
liation, id.

How a Callus is formed, 206

The Difference betwixt the Ge-
neration of a Callus and of
new Flesh, 207

CHAP. VIII.

Of Ulcers with callous
Lips.

The Cause of Callous Lips, 208

The Diagnosticks and Cure, id.

CHAP. IX.

Of putrid Ulcers.

The Origin and Cause, 209

The Diagnosticks and Progno-
sticks, and Cure internally,

210

— *Externally,* 211

CHAP. X.

Of Phagedæna and Noma.

Their Description, 212

The Differences and Cause, id.

The Diagnosticks, Prognosticks,
and Cure, 213

CHAP. XI.

Of Ulcers with Varices.

The Cause, 214

The Cure, id.

CHAP. XII.

Of Sinuous Ulcers.

The Description and Cause,
215

The Differences, 216

The Diagnosticks, Prognosticks,
and Intentions of Cure, id.

CHAP. XIII.

Of Sinuous Ulcers and
Fistula in Ano.

The Origin of Fistula's, 218

The Diagnosticks and Progno-
sticks, 219

The palliative Cure, 220

The perfect Cure, id.

How

The Contents.

How a *Fistula* is to be laid open, 221
 How it is to be done by *Ligature*, id.
 — By *Incision*, 222

CHAP. XIV. Of an *Ægylops*.

The *Description*, 213
 The *Cause*, *Diagnosticks*, and *Prognosticks*, id.
 The *Indications of Cure*, 224
 What *Externals* are proper, id.
 A *Caution* in applying *Causticks*, id.
 The *Use of actual Cantery*, 225

PART III.

CHAP. I. Of Wounds in General.

The *Definition*, 226
 The *Differences*, id.
 The *Diagnosticks*, *Prognosticks*, and *Intentions of Cure*, 227
Intentions different in compound wounds, 228
 How the first *Intention* is performed, id.

Which way a *Weapon* is to be drawn out, 229
 What is to be done after the *Extraction of extraneous Bodies*, id.
 How the second *Intention* is to be promoted, 230
 How the *Lips of a Wound* are to be brought together, id.
 How the third *Intention* is to be pursued, 231
 How many sorts of *Bandage*, and how made, id.
 How the *Rowlers* are to be made, 233
 How many kinds of *Sutures*, id.
 The manner of sticking the *Perritoneum*, 234
 The *Method of sticking other Wounds*, 234
 How the fourth *Intention* is to be performed, 235
 The *Temper of the Part*, how it is to be preserved, id.
 What *Regimen in Diet* is to be observed, id.
Bleeding and Purging, when requisite, 236
Vulnerary Drinks and Alteratives, when requisite, id.
Inflammation how to be prevented, 237
Small Wounds, how to be dressed, id.
 How the *Work of Agglutination* is performed by *Nature*, 238
 How

The Contents.

<i>How Agglutination is obstructed,</i>	240
<i>How internal Medicines promote Agglutination,</i>	241
<i>How Agglutination is promoted by Externals,</i>	242
<i>What is to be done in Wounds with Loss of Substance,</i>	id.
<i>Stitching requisite, when,</i>	id.
<i>What is to be done in large Wounds with Loss of Substance,</i>	243
<i>What is to be done in contused Wounds,</i>	244
<i>How ill Accidents are to be remedied,</i>	245
<i>Hæmorrhagy, how remedied,</i>	id.
<i>Pain, how remedied,</i>	246
<i>A hot Intemperies, how to be remedied,</i>	247
<i>A Fever, how remedied,</i>	id.
<i>How Velicatories raise Blisters,</i>	248

C H A P. II.

Of Wounds of the Veins and Arteries.

<i>Wounds of the Veins and Arteries, how distinguished,</i>	249
<i>The Prognosticks,</i>	id.
<i>The Cure,</i>	250
<i>Escharoticks, when to be applied,</i>	251
<i>Actual Caутery, when to be applied,</i>	id.

C H A P. III.

Of the Wounds of the Nerves, Tendons, and Ligaments.

<i>The Diagnosticks, Prognosticks, and Method of Cure,</i>	252
<i>The Accidents that attend Bleeding,</i>	253
<i>Of the Ligaments,</i>	id.

C H A P. IV.

Of the Wounds of the Face.

<i>Cautions to be observed,</i>	254
<i>What is to be done in case of Fluxion,</i>	id.
<i>Agglutination, how hindered or promoted,</i>	255

C H A P. V.

Of Wounds penetrating the Oesophagus, and Aspera Arteria.

<i>How Wounds in these Parts are to be treated,</i>	256
---	-----

C H A P.

The Contents.

C H A P. VI.

Of Wounds of the Breast.

The Differences and Diagnosticks, 257
The Prognosticks and Cure, 258

C H A P. VII.

Of Wounds of the Belly.

The Differences, 260
The Diagnosticks, Prognosticks, and Method of Cure. id.
When the Omentum is tainted, what is to be done, 261
In Wounds of the Guts, what is to be done, id.
Bleeding, Clysters, and vulgar Decoctions necessary, 262
What is to be done when the Viscera are wounded, id.

C H A P. VIII.

Of Wounds of the Head.

The Differences, 263
Wounds of the Skull, how many, id.
The Symptoms and Accidents of Concussion, id.
The Diagnosticks and Prognosticks, 264

Of Simple Contusions of the Head.

In simple Contusions of the Head, what is to be done, 265
When the Tumour is hard and painful, what is to be done, id.
When the Tumour is complicate with Concussion, 266
When a Tumour is complicate with a Wound, id.
In incised Wounds of the Head, what is to be done, 267
What is to be done in Wounds of the Head, with Loss of Substance, 268
— In Wounds made by Contusion, id.
— When the Skull is laid bare, id.
Why Rasping is necessary, 269
How the Bone is to be dressed after Rasping, id.
In Fissures or Fracture, the Scalp to be divided, how, id.
When a Fissure and Fracture are complicated, what is to be done, 270
When the Trepan is to be applied, and the manner of applying it, 271
What is to be done in Fractures made by Gun shot. 272
What is to be done in great Concussions, 273
How Wounds of the Dura Mater are to be dressed, id.
Of

The Contents.

*Of Wounds of the Pia Mater,
and Brain it self, 275*
*What Regimen is to be observed
in Wounds of the Head, 276*

Of Gun-Shot Wounds.

C H A P. I.

*Accidents attending Gun-shot
Wounds, 277*
*Extraneous Bodies, when to be
extracted, 278*
Which way, id.
*How the Part is to be dressed
after Extraction, 279*
The second Dressing, 280

C H A P. II.

Of the Accidents that at- tend Gun-shot Wounds.

*How an Inflammation or an E-
rysipelas are to be prevent-
ed, 281*
*How a Gangrene is to be relie-
ved, id.*
*In a Hemorrhogy, what is to
be done, 282*
*How Sinuosity is to be preven-
ted, id.*

C H A P. III.

Of Gun-shot Wounds with Fracture.

*Signs of Fracture complicated
with a Wound, 28*
The Prognosticks, id.
*What is to be done when a Fra-
cture is complicated with
Dislocation, 28*
How it is to be reduced, id.
*How the Bone is to be dressed
id.*
*What Bandage is to be made
id.*
Of Splenia and Ferula, id.
A due Position requisite, id.
*When the Bandage is to be
loosed, 28*
*Vulnerary Drinks convenient
id.*

C H A P. IV.

Of Gun-shot Wounds of the Joynts.

The Prognosticks, 28
*What is to be done in the Cure
id.*

C H A P. V.

Of Gun-shot Wounds of the Belly.

The Differences, 28
The Diagnosticks, 28
id.

The Contents.

<i>The Prognosticks,</i>	290	<i>The Causes,</i>	id.
<i>Intentions of Cure,</i>	id.	<i>The Diagnosticks,</i>	299
<i>How the Intestines and Omentum are to be reduced,</i>	id.	<i>The Prognosticks,</i>	300
<i>What is to be done to stop a Hemorrhagy,</i>	id.	<i>The Cure,</i>	301
<i>What is to be done in Wounds of the Stomach and Guts,</i>	id.	<i>Scarification, when requisite,</i>	id.
<i>What is to be done in Wounds of the Kidneys.</i>	291	<i>The Method of dressing, a Mortification.</i>	302
		<i>A Caution to be used,</i>	id.
		<i>When Amputation is requisite,</i>	303
		<i>In what Cases,</i>	id.
		<i>The manner of performing it,</i>	304
		<i>How the Bleeding is to be stopped,</i>	id.
		<i>The manner of using actual Caustery,</i>	305
		<i>The Advantages of the Cross Stich,</i>	id.
		<i>How the Blood is to be stopped with Astringents.</i>	306
		<i>The Use of ol. Terebinth.</i>	id.
		<i>The second Dressing, when, and how,</i>	307.

C H A P. VI.

Of Gun-shot Wounds in the Thorax.

<i>The Differences,</i>	292
<i>The Diagnosticks,</i>	id.
<i>The Prognosticks and Intentions of Cure,</i>	293

C H A P. VII.

Of Burns with Gun-powder.

<i>The first Intention,</i>	295
<i>The Reason of Blisters,</i>	id.
<i>The Method of Cure,</i>	296
<i>Why warm Medicines relieve Burns,</i>	id.

C H A P. VIII.

Of a Gangrene and Sphacelus.

<i>The Definition and Difference,</i>	297
---------------------------------------	-----

C H A P. IX.

Of Fistulæ.

<i>The Description and Cause,</i>	308
<i>The Difference, Diagnosticks, and Prognosticks,</i>	id.
<i>The Cure,</i>	309
<i>The Use of Cathetericks,</i>	310
<i>Pain and Inflammation, how relieved,</i>	id.
<i>If a Bone be carious, what is to be done,</i>	311

PART

The Contents.

PART IV.

CHAP. I. Of Fractures.

<i>The Definition,</i>	312
<i>The Difference and Diagnosis,</i>	313
<i>The Prognosticks,</i>	314
<i>The Intentions of Cure,</i>	id.
<i>How Extension is to be made,</i>	id.
<i>How ill Symptoms are to be prevented,</i>	315
<i>The Method of making Extension,</i>	316
<i>Of Bandage,</i>	id.
<i>How the first Rowler is to be used,</i>	317
<i>The Method of using the second and third,</i>	id.
<i>When the Fracture is to be opened,</i>	318
<i>How the third Intention is to be pursued,</i>	id.
<i>A due Position of the Part to be observed,</i>	319
<i>How a Callus is generated,</i>	320
<i>How the Generation of a Callus is obstructed,</i>	321
<i>How ill Accidents are to be resisted,</i>	322
<i>The Method of reducing particular Fractures, and the time of their uniting,</i>	324

CHAP. II. Of Compound Fractures

<i>The Definition,</i>	323
<i>How compound Fractures with out Contusion are to be treated,</i>	id.
<i>When the Bone is thrust out, what is to be done,</i>	id.
<i>Regard to be had to the Accidents,</i>	327
<i>A Caution,</i>	id.

PART V.

CHAP. I.

Of Luxations in General

<i>The Definition and Causes,</i>	328
<i>The Nature of Articulation</i>	330
<i>By Symphisis, how many ways</i>	id.
<i>How many sorts of Articulation,</i>	id.
<i>The Differences and Diagnosis, sticks, and Prognosticks,</i>	331
<i>The Intentions of Cure,</i>	332

CHAP. II.

Of the Dislocation of the Lower Jaw.

<i>The Description of the Articulation,</i>	334
---	-----

The Contents.

The Diagnosticks, Prognosticks, and manner of Reduction, and Method of Reduction.
 335 341

C H A P. III.

Of the Dislocation of the Clavicle.

The Description of the Articulation, 336
How many ways dislocated, id.
The Prognosticks, and manner of Reduction, id.

C H A P. IV.

Of the Dislocation of the Shoulder.

The Description of the Articulation, 337
The Cause, 338
The Diagnosticks, id.
The Prognosticks, 339
The manner of Reduction, id.
 —By Bandage, 340
 —By Instruments, id.

C H A P. V.

Of the Dislocation of the Joynt of the Elbow.

The Description of the Articulation, 341
The Diagnosticks, Prognosticks,

C H A P. VI.

Of the Dislocation of the Carpus, Metacarpus, and Fingers.

The Description of the Articulation, 344
The Diagnosticks, and manner of Reduction, id.

C H A P. VII.

Of the Dislocation of the Hip.

The Description of the Articulation, 345
The Diagnosticks and Prognosticks, 346
The manner of Reduction, id.

C H A P. VIII.

Of the Dislocation of the Knee.

The Description of the Articulation, 348
The Diagnosticks, and Method of Reduction, id.

C H A P.

The Contents.

CHAP. IX.

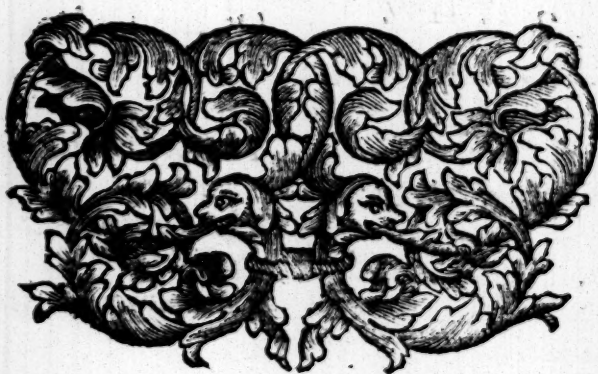
Of the Dislocation of the
Ankle-Bone.

*The Description of the Arti-
culation,* 349
The Diagnosticks, id.
The Prognosticks, 350
The manner of Reduction, id.

CHAP. X.

Of the Luxation of the
Spine.

Which way remedied, 351
*The Reason of external Appli-
cations, and their Effects,* id.
An Index of Medicines, &c 352



A SY



A
SYSTEM
OF

RATIONAL CHIRURGERY, &c.

The INTRODUCTION.

CHAP. I.

*Of Chirurgery in General, and the
Method of explaining the Causes of
Diseases, and the Intentions of Cure,
as well as the Effects of Medicines.*



THE Art of Chirurgery strictly, according to the Etymology of the word *χειρουργία*, only signifies manual Operation; where, by the Use of Instruments, or the Assistance of the Hands, human Bodies are relieved of those accidental Diseases

B

The INTRODUCTION.

*What is to
be consid-
ered by a
Chirurgion.*

eases they are externally subject to. And if so, it would be sufficient for a Chirurgion to consider the natural Structure and Situation of the Parts of a human Body; and what Instruments, or other manual Assistance might be proper for their Relief, when disabled by any Accident. But since Chirurgery is divided into four Parts, *viz. Synthesis, Diuresis, Exeresis, and Anaplerosis*; and since the last Part of this Division is chiefly effected, by the evident Qualities of Medicines applied; as they assist Nature in doing her Part; and none of the others can be perfected without them; to make the Art of Chirurgery perfect, it will be likewise requisite for a Chirurgion to consider, not only the Structure and Fabrick of human Bodies, but also the Nature of the Humours contained in each distinct Vessel, which may be affected with *Intemperies*, and occasion the Diseases under his Care: For if the nature of those Humours be not well understood, and the Alterations they are liable to, it will be a difficult matter for a Chirurgion to apply such Medicines as are proper to answer his Intentions. And as it is necessary to understand the Structure of the Parts, and the Nature of the Humours contained in those Parts; so it is also requisite to consider the Nature and Qualities of those Medicines applied, and how they affect the Parts or Humours they are to work upon; by which means he will be better able to proportion, and chuse proper and effectual Topicks, to relieve his Patients of their respective Maladies.

*The Useful-
ness of
Theory.*

And when the Structure of the Parts are duly considered, and the Nature of the Humours external Applications are to work upon; and likewise the Nature and Qualities of Medicines, it will be no difficult Matter thence to deduce their *modus operandi*, and to explain how, what Medicines we make use of, produce their evident Effects. And when once we can but apprehend, why Medicines

pro-

The INTRODUCTION.

3

produce their natural Effects; it will evidently appear, how much the *Rationale* improves Practice, in teaching us to diversify Applications, as the Circumstances of the Case shall indicate.

And since all singular Cases are comprehended under their respective *Species*, and those different *Species* are considered under their proper *Genus's*; the Method I propose in the following Sheets, shall be first to consider the several *Genus's*, and from thence proceed to each particular *Species*. *The Method proposed in the following Rationale.*

But since all *Genus's* and *Species* are comprized under the general Term of Chirurgery, of which we propose a *Rationale*; before we proceed to Particulars, it will be reasonable to consider and propose a general Scheme or System, by which we conceive all the *Phænomena* in Chirurgery may be accounted for.

And since the Qualities of the Parts, and Humours of a Man's Body, are evident Qualities; and also, since the Qualities of those Medicines we make use of, are equally manifest; we shall first deduce and account for the several *Phænomena*, by evident Qualities; and then shew how those evident Qualities produce their Effects, by their respective Particles working upon one another, according to the Principles of the corpuscular Philosophy.

By evident Qualities I mean, those Properties which are the Result of each particular Body's distinct Form, or Contexture of Parts; for as the different Contexture of Parts of a Body happen to vary, so do their Forms, since Forms are nothing else, but a particular Modification, or Contexture of the Parts of Matter, of which the Body or Substance is composed; and as every distinct Substance hath its proper Contexture of Parts, that makes its Form; so according to that distinct Form, it hath distinct Qualities. Hence a Body is said to be astringent, and another whose Form and Con-

Evident Qualities, what.

The INTRODUCTION.

texture is of another kind, is Mucilaginous or Dis-
cutient, &c.

*The Nature
of Forms
and Quali-
ties more
fully con-
sidered.*

But to make this more intelligible to those who are but little acquainted with the Nature of Forms and Qualities; it may be requisite more distinctly to explain, whence Forms and Qualities arise; by which it will not only appear more plainly, what I mean by evident Qualities; but it will be a great deal easier to apprehend, how these Qualities affect one another, in the several Intentions in Chirurgery; and Philosophically to deduce the Reasons of the Effects of those Medicines, which are made use of in Chirurgery. In order to this then we shall first consider,

That as all Bodies are formed of common Matter, they would without Distinction appear to be of the same kind, were there not something to diversify them; and as Matter, considered as Matter, would be, as black to black, without differing in colour; there must be some Accidents to diversify the several Parts of it.

*How diffe-
rent Quali-
ties affect
one another.*

And since every Body consists of Parts, it is but reasonable to suppose, that in different Bodies, those Parts must vary, either in Size, Figure, or Position and Order; for were they of the same Size, Figure and Position, there would be no Difference in Texture, and consequently to our Senses they would appear to be the same: But since Parts of a different Size, Figure, and Contexture, make a different *Modus* of Matter, that different Modification will occasion different Forms; and as the Forms are varied by several Contextures and Modifications, so those Bodies will acquire different Qualities, since Qualities are the Result of, and flow from Forms; for Qualities arise from Forms, as Forms do from different Contextures and Modifications of the Parts of Matter, of various Sizes, Figures and Positions.

Now

The INTRODUCTION.

5

Now since from what hath been said, it plainly appears what I mean by Qualities; it will be no difficult Matter to imagine, how evident Qualities may affect one another, since Qualities flow from Forms, which consist of Parts of a different Size and Shape from one another: For as that Difference happens, no doubt but their Effects on one another will be different also; various Particles of Matter affecting one another after several Manners; for when Particles of particular Sizes and Shapes are mixed together, and in Motion, they will be apt either to quicken and promote, or obstruct and hinder their respective Degrees of Motion. If they be volatile and subtile, they will be apt to enter into the Pores of grosser Bodies, whose Parts are so formed together in their Contexture, as to leave Pores large enough to receive them; if the Figure of their Parts be sharp and cutting, they will be apt to divide and separate the Parts of other Bodies, whose Texture is not too firm to resist them; and consequently will occasion a Comminution or Corrosion. If they be hooked, and contain different Angles, they will be apt to take hold of one another, and entangle the Parts of other Bodies; and by obstructing their Motion, render them less fluid, or milder in their particular Qualities. If they be round and smooth, they will dull the Edges of sharp acrid Humours, by an Interposition of their Parts; and thus, according to their different Qualities, they will have different Effects. But these, and the rest of the Qualities of Chirurgical Applications, shall be more fully explained and illustrated in their proper places.

C H A P. II.

Of the General Divisions of Chirurgery.

Of the Divisions of Chirurgery.



Chirurgery in General is divided into four Parts, *viz.* *Synthesis*, *Diæresis*, *Exæresis*, and *Anaplerosis*.

Synthesis teaches how to join together Parts unnaturally separated; whether by sharp Instruments, dividing the softer Parts, or external Violence producing a Solution of Continuity in the solid Parts.

Diæresis instructs us how to separate Parts which preternaturally happen to be joined together.

Exæresis tells us how to take away what is superfluous: And

Anaplerosis informs us how to add what is wanting, and to supply the Loss of Substance happening in any Part.

But since these Parts of Chirurgery happen, in several Cases, to be jointly concerned; it is impossible to write of Chirurgery in General under those Divisions: But since all Cases in Chirurgery come under the Denomination of Tumours, Ulcers, Wounds, Fractures or Dislocations, we shall treat of them under those General Heads; and first proceed to consider the Nature of Tumours.



A
SYSTEM
OF

Rational Chirurgery, &c.

PART I.

CHAP. I.

Of Tumours in General



Tumour is a Disease, in which the *The Defini-*
Parts of the Body recede from their *tion.*
natural State, by an undue increase
of their Bigness.

The Causes which concur to the *The Causes.*
Production of Tumour, are, either
Antecedent, Procatartick, or Conjunct. The An-
tecedent Cause is, The peccant Matter contained in
the Mass of Blood, whilst it circulates, and is mix-
ed

ed with the whole. The Procatartick Cause is, That which occasions a Separation of the morbidick Matter from the Mass of Blood, and disposes it to be thrown out, and discharged upon any part: And this may be done, either by Heat, or Cold; accidental Heat occasioning a critical Separation of that Humour; and Cold incrassating and thickening the Humour so much, that it becomes too gross to pass through the small Vessels. The Conjunct Cause is, The Humour discharged upon the Part, and which produces the undue increase of its Bigness. But the Humour discharged upon the Part, may not only be accounted a Conjunct Cause; but also, the Weakness of the Part which receives it; for if the natural Tone of the Part were not weakened, any other Part might as well give way to the Reception of the morbidick Matter. But when any Part by a violent Blow, or other Accident, hath the Tone of it's Fibres weakened; or by any precedent Distemper; or when, by the natural Structure of the Parts, their Fibres contract a natural Debility and Weakness; they are, by that means, rendered more apt to give way to the Reception of distempered Humours, and consequently concur with the peccant Matter, to the Production of a Tumour. But the Weakness of the Part may not only be esteemed as a Conjunct Cause, but likewise, as an Antecedent Cause, in as much as it preceded the Tumour.

Differences. According to the different Qualities of the Conjunct Material Cause; and the different Parts upon which it is discharged, Tumours receive their various Denominations.

When Blood and *Serum* mixed together, happen to be thrown upon any Part, they occasion either an Inflammation, or *Phlegmon*, *Erysipelas*, *Furunculus*, *Epinyctis*, *Terminthus*, *Phyma*, *Phygethlon*, &c. When the Mass of the Blood alone produces a Tumour,

is, tumour, it occasions a *Varix*, *Ecchymosis*, or an *Anurisma*; Choler produces *Herpes*, Phlegmatick Humours, *OEdema*; Melancholy, *Scirrhus*; *Atra Bilis*, *Cancer*; waterish Humours, *Hydrocephalus*, *Hydrops* and *Hernia aquosa*; salt Humours, *Scabies* and *Lepra*; Wind, *Emphysema*.

As the peccant Matter is discharged upon different Parts, Tumours likewise receive different Denominations, as, *Bubo*, *Parotis*, &c.

Another Difference in Tumours happens from their Degrees of Increase; the Material or Conjunct Cause, in some, being thrown upon a part suddenly, and with great Pain; in others, without Pain, and by slow degrees.

When a Tumour is occasioned, by a sudden In- *By Fluxion.*
flux of Humours, it is said to be made by Fluxion; and the Humour that flows to it, is generally hot. Fluxion is weaker or stronger, according to the several Accidents that attend it, whether they be naturally or artificially occasioned. The Accidents of Nature which increase Fluxion, are Pain, corrosive Humours, Wounds or Contusions: Other Accidents are, hot Medicines, blistering Plaisters, external Heat, cupping Glasses, &c.

When a Tumour increases by slow degrees, and without pain, it is said to be made by Congestion: *By Conge-*
These Tumours are generally cold; and the Parts *stion.* being weakened, have lost their natural tonick Stricture; so that they easily give way to the Impression of Humours, which are either thin and serous, or thick and phlegmatick: The latter are apt to coagulate and indurate, the thinner parts being evaporated; and then they occasion *Scirrhus* Tumours, or *Exostoses*; but some kind of Tumours, which rise by slow degrees, owe their Origin to the undue apposition of the Parts of natural Juices, as, *Sarcoma*, *Hernia Carnosa*, &c.

When

When Wind happens to be mixed with Humours and gets the Predominancy, it occasions a particular Tumour, called, *Emphysema*.

Of the formal Cause of Tumours.

Thus much being said, as to the concurring Causes, and differences of Tumours in general ; it may not be amiss, before we proceed, to consider what is the true formal Cause, or the manner how a Tumour is formed ; and after what manner the peccant Matter occasions an undue increase of Bigness ; and how Accidents contribute to the quicker or slower increase of them.

The better therefore to apprehend what may be the true formal Cause of producing Tumour, or the *modus formandi*, it will be requisite to consider, that the whole Body, and consequently every distinct Part, is altogether vascular ; and as every Part, considered as organical, is composed of Vessels of several kinds ; so the Humours, that circulate through those Vessels, also vary ; and consequently, as those different Vessels, or several Humours are in fault, so they will produce Tumours of different kinds, attended with Symptoms and Accidents, peculiar to their differences : As for example, if the Blood be in fault, it must produce it's ill Effects in the Blood Vessels ; or else, by fault of the Vessels it ought to be contained in, it must be extravasated : The *Serum*, or proper Humour separated in each Gland, must likewise be peccant, or the Vessels themselves in fault ; for as long as the Humours are of their natural Temper, and the Fibres of the Vessels retain their natural Strength, and due tonick Stricture ; the whole machine or organical Engin, will perform it's Office without Fault ; but if the Humours in the small capillary Vessels be too gross and thick to pass easily through them, and circulate, they will be apt to stagnate, and cause an Obstruction, and hinder the due Circulation ; and if any of the small Vessels be obstructed, since the Humours are in constant Circulation

ulation; successive Humours, crouded by successive Pulsations, on the obstructed Part, for want of free Passage, will be apt to distend the obstructed Vessels, beyond their due Tone; and then the distended Vessels, must of Necessity compress the adjacent Vessels, which will occasion an Obstruction in them likewise; and consequently, the Tumour in the first Vessels, will occasion it in those adjacent; so that the Tumour must gradually increase, and likewise the Symptoms. Now if upon an Obstruction of the Circulation, by successive crouded Humours, the Vessels are so far extended, as to cause a Solution of Continuity, and Rupture of the Vessels; then consequently an Extravasation must follow, and the Tumour be still enlarged. Again, if a Body be Plethorick, and the Vessels very full and altogether distended, though the Humours be of a good Temper; yet any particular Vessel having lost, by an accidental Blow, or natural Weakness, it's due tonick Stricture, it will be apt to give way to the Pressure of the Humours, and tumify; and that Tumour may be either so far extended, as to produce an Extravasation, or else the Vessel tumified, may press so much upon the adjacent Vessels; that though there be no Obstruction in it self, it may cause an Obstruction, and consequently a Tumour in them. Again, if a Vessel have a natural, or accidental Weakness, though there be neither Obstruction through Grossness, nor the Vessels ruptured by Plethora; yet, if the Humours be sharp and thin, and consist of corrosive penetrating Parts, they may so far weaken and fret the Fibres of the Vessels, as to render them liable to give way to Extravasation by a small Force.

From hence it appears, that a Part may be tumified, either by Obstruction, Extravasation, or the Extension and Dilating of the Vessels through the Weakness of their Fibres; which are such natural

How many ways a Part may be tumified.

Con-

Consequences, if we consider the Body as a Vascular Machine, and the manner of the Circulation of the Humours, that there seems to be no occasion for farther Proof, since what I have proposed carries its Demonstration along with it; for we see, that when any Vessel externally is compressed, it presently tumifies, and that when one is swelled, it will press upon the next to it, is so natural, it admits of no Dispute. How Extravasation creates a Tumour, is evident in *Ecchymosis*, and *Aneurisma*, and that the Vessels, by Weakness, may give way to Tumour, is evident in a *Varix*, and that the Vessels, when so tumify'd, may press upon, and obstruct the Circulation of the Humours in the adjacent Vessels, is evident in the Symptoms; since a Tumour always occasions the Parts about it to swell.

How the
Symptoms
and Acci-
dents of Tu-
mours are
occasioned.

Since from what hath been said it appears, how a Tumour may be occasioned; it is not difficult to conceive, that as those Accidents that occasion it happen to be in different Parts, they will create different kind of Tumours and Symptoms; for if they happen in fleshy Parts, where the Vessels are full of hot Blood, the Circulation strong, and the Vessels closely compacted together; an Obstruction will cause a violent Extension of the Vessels, or an Extravasation must be proportionably violent to the Largeness of the Vessel ruptured, and the Violence of the Humours crowded on by the impulse of Circulation: And since every Muscle is contained in a proper and sensible involving Membrane, and each Fasciculus of Fibres, is tied together by proper Fibres extended from the Expansion of the Tendons; when these Membranes and Fibres are violently extended by the Tumour, it must needs occasion Pain; and since the Vessels extended, press against those sensible Membranes, the free Passage of the arterial Blood through the Parts about the Tumour, being stopped

and hindred, each Pulsation will make an Impression upon those Membranes, and cause a sensible Pulsation; so that such sort of Tumours must needs be attended with Pain and Pulsation, as well as Tension; and since Pain affects the Spirits, and causes more violent Expansions of them, and consequently, promotes Circulation, that Pain must occasion a feverish Heat and quick Pulse, which produces a Fever. How the violent Expansion of the spirits may occasion a Fever, I shall not explain here, but refer the Reader to a small Tract of mine wrote some Years ago, about the Reason of the Heat of the Blood.

But to proceed, if Pain will occasion Heat, and Heat promote Inflammation, it is not only evident how internal Heat and Pain exasperate each other, and promote Tumour; but how even external Accidents may promote the Symptoms likewise; as external Heat, or hot Medicines, or whatever Applications cause Pain, whether corrosive Medicines, or cupping Glasses, &c. For if whatever heats causes Inflammation, and Inflammation causes Pain, &c. then Pain, occasioned externally, will do the same. And thus much for Tumours in fleshy Parts or any other, where Tension presses upon sensible Membranes, closely confined about the Tendons, or Ligaments of the Joints, or the sensible Membranes that invest the Bones.

When Tumours happen in glandulous Parts, which are less sensible, being not so closely confined by investing sensible Membranes, though the Vessels happen to be obstructed and tumified, or the Humours to be extravasated, or otherwise to be dilated, yet the Symptoms are less violent, the Heat and Inflammation being proportionably less.

What hath been said may suffice to shew, the formal Causes of the Production of Tumours, and their Symptoms: It remains only that we should

Why Tumours made by Fluxion differ from those made by Congestion.

add, why Tumours, which are said to be made by Fluxion, differ from those, which are said to be made by Congestion.

And first, In Bodies which are affected with Tumours by Fluxion, as they are hot Tumours, so those Bodies are full of Humours which are more easily inflamed. Secondly, The Parts affected with them are more sensible, and subject to be affected with Pain. Thirdly, In strong Bodies the Pulsation of the arterial Blood is forced upon the Parts with more Violence. And, Fourthly, The Extension of the Parts is quicker and less gradual, which renders the Pain more exquisite, than where the Parts are gradually extended, and give way to the Humour by degrees.

But in Tumours made by Congestion, the Humour is generally cold; the Humour slowly forced upon the Parts, and impelled by a gentler and less forceable Pulse. Besides, the Vessels having lost their Tone, easily yield to the Reception of the peccant Matter, and the Parts affected are less sensible of Pain.

As for those Tumours which are occasioned by Wind mixed with Humour, they generally happen in membranous Parts, which are less sensible; as in the Membranes, betwixt the Skin and the subjacent Parts; where, by the violent Expansion of the Wind, those Membranes are inflated, and stretched beyond their due and natural Tone; and only elevate the Skin without pressing upon the Parts beneath them. These Tumours often happen, and are occasioned by Contusions about the Joints especially upon the *Ancon* or *Patella*.

Diagnosicks.

But to proceed to Tumours occasioned by Humour only. From what hath been said, it will be no difficult Matter to assign their Diagnosticks. If a Tumour proceed from any external Cause, it will be easily known; but if it proceed from an internal Cause

Cause, it must be either by Congestion or Fluxion.

That which is made by Congestion increaseth gradually, without any evident preceding Cause, or much Pain, except about the Joints, or Parts very sensible.

If the Tumour be made by Fluxion, it is very painful, and increaseth suddenly, with Tension, Pulsation, and a Fever. There is another sort of Fluxion, which Mr. *Wiseman* calls Translation; but since I believe the Distinction not material, I shall not here take notice of it.

Tumours made by Fluxion have four Times or Degrees, *viz.* Beginning, Augment, State and Declination. Their Beginning is with the Extension of the Parts affected; when Tumefaction of the Vessels is first occasioned by Obstruction, or Extravasation of the Humours, and before they begin to stagnate and tend to Suppuration. The Increase is, when the Tumour is evident, and the Symptoms shew themselves accordingly. The State is, when the Symptoms are at the Height, and the Tumour suppurates. The Declination is, when the Tumour as well as the Symptoms abate.

In the Prognosticks of Tumours we are to consider, That the more noble any Parts are, so much they are more dangerous; also Tumours internal are more dangerous than external. The Event varies likewise according to the Largeness of the Tumours, and the Accidents that attend them; and also according to the Quality of the Humour that occasions them, whether it be hot or cold, gross or thin, benign or malignant.

We are likewise to consider the manner of their Termination, whether by Discussion, Suppuration, Corruption, Induration, or Retraction.

If they terminate in Discussion, the Tumours diminish, and the Parts are relaxed; if they tend to Suppuration, they are attended with Pain, Pulsation,

tion, and a Fever; but when the Matter is suppurated, those Accidents cease; and the Tumour rising into a Cone, the Matter appears white, and fluctuates under your Fingers: But in crude Tumours, and those that lye deep among the Muscles, the Matter is not so easily discover'd; if they terminate in Corruption, the Tumour sinks, and the Parts are livid and blackish; if in Induration, the Tumour and Pain decrease as they grow harder. If they end in Retraction, they presently disappear; and the Humour being mixed with the Blood, creates ill Symptoms, and a Fever.

The Intentions of Cure.

In the Cure of Tumours, three things are chiefly to be considered. 1. The Nature of the Part. 2. The Nature of the Tumour. 3. Its Time, and other Circumstances.

The Nature of the Part to be considered.

First in respect of the Part, we are to consider 1. Its Temperament. 2. Its Conformation. 3. Its Situation. 4. Sense. 5. Its Use.

First, in respect of their Temperament, some are hot, as the Muscles, abounding with a vast Number of small sanguiferous Vessels, and kept warm by a close compacted *Paranchyma*. Others are colder, as the Tendons and Glands, which are more exposed to the Influence of external Cold, and less defended and covered with warm Blood Vessels within. Some are moderately moist themselves, and require Medicines, neither too violently drying, nor too moist, as the fleshy Parts; others dry of themselves, requiring drying Medicines, as Bones; others of a loose and spongy Nature, are naturally overwhelmed with their own Moisture, as the Glands of Emunctories about the *Axilla*, *Inguen*, &c.

Secondly, The Conformation of Parts, either respects their outward Figure, or internal Composition. The first shews us what Cavities or Interstices may receive Humours; and the latter, of what Parts, whether similar or organical, they are composed.

posed of, which may suggest the most proper Intentions for their Relief.

Thirdly, The Situation of the Part is to be minded; for as the Part is more or less depending, so the Humours contained in the Vessels, by their own specifick Gravity, will be apt to press upon the Parts, and add to the Humours (which were heaped up by the other Accidents, and concurring Causes of Fluxion) so that if a Part be naturally depending, it must, if possible, be placed in such a Posture, as may give least way to the pressure of Humours; as an Arm is to be raised to the Breast, or a Leg to be raised by placing it upon a Couch or Stool.

Fourthly, If the Parts be of very acute Sense, or the Parts adjacent; all possible Care is to be taken to prevent ill Symptoms.

Fifthly, Regard is to be had to the Part, in respect of it's Use, as it is more or less noble, simple or organical.

The Nature of the Part being considered, Secondly we are to consider the Nature of the Tumour; as, whether it be hot, and made by Fluxion; or cold, and raised by Congestion; or mixed, and partly both. If by Fluxion, it is to be check'd by Evacuation of the Humours, by Bleeding and Purging, or by Revulsion, Derivation, Repulsion, Discussion, &c. If by Congestion, then purging with Resolvents and Discutients, and such Medicines as may strengthen the Parts, may be convenient: If the Tumour be made partly by Fluxion, and partly Congestion, the Method is to be complicate likewise.

The third thing in General, in the Cure of Tumours, to be considered, is, its Time and other Circumstances; as whether in the Beginning, Increase, State or Declination: And

First, In the Beginning of Tumours made by Fluxion, Bleeding is convenient, which is to be in a Quantity proportionable to the Violence of the

C

Disease,

The Nature of the Tumour to be considered.

The Time, and other Circumstances.

Bleeding, why requisite.

Disease, and the Strength of the Patient; for the sanguiferous Vessels being, by this means emptied, the Humours are not so plentifully forced upon the Part; and consequently, if there happen an Obstruction; the Vessels about it are less swelled and crouded; and if the Vessels happen to have been so much distended, as to give way to an Extravasation, they are by this means so much emptied and evacuated, as easily to reassume and receive the extravasated Humours into the Blood again; besides the Quantity of evacuated Blood, making room for an equal Quantity of thinner Liquors, to attenuate and dilute the whole Mass, the Matter which occasioned the Obstruction, may, by that means, be thinn'd and made apt to move, and disposed to mix with the rest of the Mass. But this is not the only Advantage of Evacuation; for the Humours are not only attenuated, and the Vessels emptied, but the Heat and Inflammation likewise abated; and that three Ways: First, by taking away Part of those hot Humours within; Secondly, by making room for medicinal Liquors to correct and restrain the Heat of those left behind; Thirdly, and consequently, by abating the Fluxion, and Inflammation of the Part.

Thus, by Bleeding, not only the antecedent Cause is diminished, which might still feed the Tumour, but likewise the conjunct Cause is inclined and disposed to be retracted into the Blood again.

*Purging,
why useful.*

But as Bleeding is, for the abovementioned Reasons, necessary both in respect of the antecedent and conjunct Cause, in the Beginning of Tumours, Evacuation by Stool will be also requisite; by Clysters or lenitive Purging, or stronger, as the Nature of the Humours require, or the Strength of the Patient will admit; by this means the *Cacochymia*, or Quantity of ill disposed Humours, which might disorder the Mass of Blood, or supply and add to the Matter of the Tumour, are diminished, and the

Matter

Matter lodged in the Part, disposed to go off into the Mass of Humours; for Purging is not only beneficial, as it makes Evacuation and Discharge of Eccant Humours, but likewise by raising a gentle Heat, and quickening the Circulation of the Blood, it at once promotes the quicker Digestion, and helps to attenuate Crudities; and also, by pressing the Blood upon the obstructed Part, help to loosen and thrust forwards the Humours there lodged; besides, purging Medicines, according to their different Qualities, perform the Office of Alteratives, and diminish the Humour, by altering its Qualities as well as Quantity; as *Cassia* and *Manna*, which not only purge away superfluous Humours, but by their lenient Balsamick Qualities, allay the Heat of sharp Humours; their viscous ramous Parts dulling and entangling the sharp and corrosive Edges of hot Humours.

In Tumours where viscous Humours obstruct the vessels, and the Blood likewise abounds with hot and sharp Serum, lenitive Purges not only allay the Heat, and evacuate and discharge the hot Serum, but also help to digest and dissolve the grosser Phlegm. But in cold Tumours, where the Phlegm is more stubborn, stronger Purgatives are to be made use of, and more frequently repeated.

Lenitives Purgers are such as *Senna*, *Cassia*, *Manna*, *Tamarinds*. *Crem. Tart. Elect. Lenitiv. Diacassia cum Manna*, *Syr. Ros. Solut. de Rhabarb. &c.* But where stronger Purgatives are convenient, *Pil. ex duobus*, *Gambug.* and *Elaterium*, may be made use of.

Thus much may suffice concerning the Advantages and Use of purging Medicines in General; but when we come to particular Cases, we shall more exactly and particularly account for their Effects, both as they are assistant in the Cure, as Purgers, and how they are beneficial as Alteratives.

*What is to
be done in
respect of
the mate-
rial con-
junct Cause.*

But to proceed to the other general Intentions in the Cure of Tumours, we are not only to make use of Bleeding and Purging, which chiefly respect the antecedent Cause; (though they in some measure contribute to the Removal of the Conjunct) but we are in the next place to have regard to those Intentions which tend to the Removal of the Conjunct, or material Cause, as it is lodged in the Part, which according to Mr. *Wiseman*, are reducible to these two general Heads, Translation and Evacuation, Translation is effected by Revulsion, Derivation and Repulsion; Evacuation by Discussion, Suppuration, and Apertion.

*Of Revul-
sion.*

By Revulsion the peccant Humour is retracted into the Mass of Blood, by which means it lyes in the way to be carried off, or diminished by Bleeding, Purging, or Alteratives, along with the antecedent Cause; or to be translated into some other more remote Part; and this is the more to be insisted on when any noble Part is concerned, or in danger; and may be promoted by Cupping, Blistering or Ligature; which give occasion to the Parts to receive the Matter retracted into the Mass of Blood.

*Of Deriva-
tion.*

Derivation chiefly respects the antecedent Cause where by giving the peccant Matter Diversion for another way, and in some Part near the Part affected, is not so plentifully thrown upon the Part tumified.

*Repul-
sion.*

But to render Revulsion and Derivation more effectual, Repulsion is necessary; for the Matter lodged in any Part is not easily retracted out of the Part, without the Assistance of Repellents to force and assist the Expulsion of it.

*The Nature
of Repel-
lents.*

Repellents are all either virtually, or potentially of an astringent Nature: Those which are virtually Repellents, are so by their evident astringent Qualities; but those which we call potentially Repellents are Repellents by Accident, and Astringents in potentia, and are of a cooling or anodyne Quality; *Purslane, Lettice, Plantane, House Leek*, which cool

cooling, and repel the Humours, by refrigerating the Parts; but such as *Poppies, Mandrakes, suc. lan. Muc. Sem. Psylli*, repel the Humours by accident, their anodyne Qualities abating the Pain which inflamed the Parts, and encouraged the Flusion; whereas *Flores Rosar. Equiset. Cort. Graculator. Balust. Sloes, Acorrs, Cypress, Nuts, Mulberries, Sumach, Bole Armenick, Red Wine, Sangracon. &c.* are Repellents, by their evident astringent Qualities. Compound Repellents also are such as act either by their evident Astringency, or they cool and refrigerate the Parts: As *Ol. Rosar. Unguent. Rosat. Popul. Album, Unguent. Nutrit. Rot. Refrigerans Galeni. Emp. de Bolo, de Minio, Myrcratum, Oxyrrhodinum*; to which I shall add the following Prescription from Mr. Wiseman. *R. Suc. lan. plantag. Semperviv. āā ʒij Acet. opt. ʒjss. suc. Sem. Psylli, Cydon extract. cum aq. Rosar, āā.* M. In which you may dip Cloaths, and frequently renewing them, apply them to the Part affected; to which may be added, *Pulv. Gland. Flor. s. Rubr. Balust. āā. ʒij. Bol. Armen. ʒij. Ol. Myrtil. Unguent. Rosat. an. q. s. f. mixtura*, to be apply'd in form of an Emplaster over the part affected.

As to the Use of Repellents, it is to be observed, *When to be apply'd.* First, That they are only to be apply'd in the Beginning, whilst there is Hopes of preventing Suppuration; for if once the Tumour tends to Suppuration, they rather prolong the Disease, by cooling the Part and obstructing Digestion. Secondly, The Use of them is to be forborn, when the Tumour is malignant or upon the *Crisis* of a Fever; for in such Cases, the Tumour is rather to be encouraged; for, if the Humour should be repelled into the Mass of Blood again, it might renew the Symptoms and cause a Relapse.

The manner of their producing their Effects.

Thus much being said of the Use of Repellents before we proceed, it may not be amiss to consider the manner of their Operation; which will easily appear if we consider, that in Tumours made by Fluxion, the Parts are not only distended beyond their natural Tone; but that, by either the heat of the Humours, or the heat acquired by Accident they grow inflamed and very painful. Now, though no Tumour can happen without an Extravasation or an Obstruction, which occasions a Tumefaction of the Vessels; yet the Vessels may be so obstructed by the Grossness of the Humours, as to hinder a free Circulation of the Blood, without totally stopping it; for if they are so gross as not easily to pass through the capillary Vessels, the Blood, crowded on by successive Pulsations, will distend the Vessels for want of a free Discharge; so that an Obstruction may happen without a total Stagnation, for if once the Blood hath wholly lost its Circulation, it will presently coagulate, and cause a Stagnation, and the Humours so stagnating, will soon tend to Corruption and Suppuration, equally as if they were extravasated. But if in the beginning whilst the Vessels are only distended and tumefied for want of free passage, after Revulsion made by bleeding and purging, Repellents are duly apply'd they will so constrict and contract the Part, as to assist the Vessels to press out the superfluous Humours, whilst they are yet fluid and only too thick to pass the Vessels, without some acquir'd Force to assist that of Nature. And that Repellents which are of an astringent Quality, do contract and constrict the Parts, and consequently assist them to press out the contained Humours, by assisting their tonick Constriction, is evident from the Effects they have, not only upon the Parts where they are apply'd, but by their evident Effects upon the Tongue, which they presently contract and

make

make the Mouth rough; and even the Part it self, to which they are apply'd, hath its Skin presently wrinkled and contracted.

And as Repellents which are astringent in Nature, evidently contract the Parts, so those which contribute towards the same Effect, by accident, are either of a refrigerating or anodyne Nature: Anodyne Medicines abate Tumour, as they relieve that Pain which increases Fluxion; whilst refrigerating Medicines allay the preternatural Heat of the Humours; and by abating the extraordinary Fermentation, not only contract the Parts, but the Humours themselves, and consequently dispose them to yield more easily to the Assistance of Revulsion, and to recover their free Circulation: So in a *Variolix*, the Blood collected in the distended Vessel, upon contraction of the Vessel, by pressure, or any other equivalent force, passes on and circulates with the rest of the Mass. And as the Humours contained in the Vessels by a partial Obstruction, may be pressed out by Repellents, especially assisted by the powerful force of good Bandage, so even when the Blood, or *Serum*, is extravasated, before it stagnates and coagulates, by the Use of Repellents and Bandage, it may be pressed back into the Vessels.

How Anodynes and cooling Medicines assist Repellents.

But when once the Obstruction hath continued so long as to become total, and wholly to hinder Circulation; or when the Humours extravasated, begin to stagnate and coagulate, then Repellents are of no Use; the Matter thus stagnating, presently tending to Putrefaction and Suppuration.

The Use of Repellents to be left off.

But before we proceed, to consider the Tumour as it tends to Suppuration; to make it more evident, that a partial Obstruction is sufficient to cause Tumour and the Symptoms of it, Pain and Inflammation; we may observe, that if only a Ligature be made upon any Part, so as to obstruct the free

Tumour produced without a total Obstruction.

Circulation of the Blood, the Part below the Ligature presently tumefies and grows painful: To which Observation we may add, the known Effects of suppurative Bandage; and in an *Hemicrania*, upon violent Colds, where the Glands are clogg'd and obstructed so as to hinder the natural Separation of the excrementitious Phlegm, by its proper Emunctories, the arterial Blood being deny'd its free Passage, the Arteries presently grow tumid, and the Parts very painful, the Blood being too plentifully crowded upon the Extremities of the Vessels, and faster than it can be forced forwards into the Extremities of the Veins; but when the Glands are so far relieved of their Obstruction, that they are able again to separate that Phlegm, the arterial Blood having its free Passage through the capillary Vessels, the Tumour of the Vessels ceases, and the Pain remains no longer.

But when the Matter collected in the Parts stagnates, and either may not properly, as when a Tumour is malignant or critical, or when it otherwise cannot be expelled by the forementioned Intentions, it is to be discharged another way, viz. either by Discussion, or Suppuration, and Apertion.

Of Discussion.

Discussion is such a Resolution of the peccant Matter as disposes it to be breathed out by insensible Transpiration, or to be received back into the Mass of Blood; and since the Humour is coagulated, so as to cause a Stagnation, to dispose it to such a Discharge, it must be thinned and rarify'd, and the Skin likewise must be thinned and rendered more lax, that its Pores being open, may more easily give way for the Transpiration of the rarify'd Matter; but if it lies deep, it will not easily be carry'd off that way, but of the manner of Discussion more anon.

Since then in order to Discussion, the Matter is not only to be rarify'd, but that the Pores of the

Skin

Skin are to be made more lax and open also, Medicaments of a Discutient Nature, must have warm and subtile Qualities.

But if the Tumour have acquired Inflammation with Hardness, such Medicines are proper, especially in soft Bodies, as are not only rarifying, but also emollient, as, *Rad. Althææ & fol. Malv. violar. sem. Lini. fenug. fl. Chamæmel. melilot. sambuc. farin. bord. Lentium*, which may be used in the Form of Cataplasms, made up with some of the following; viz. *Ol. olivar. axung. porcin. anseris, gallinæ, sebum ruinum, vitulinum, vaccinum*. The newer these Fats are, the more soft and emollient, but as they grow old and rancid, their Parts being more subtile and attenuated, they acquire discutient Qualities. To the Discutients already mentioned, we may add, *Ol. Chamæmel. Lumbricor. Sambuci, lini, Irinum & Emp. Diachyl. Symp. de melilot comp. and de Mucilag. inibus*, also Fomentations made of *Summitat. Absynth. Flor. Chamæmel. &c.*

To these milder Discutients Mr. Wiseman thinks it to add Astringents; but since he supposes Diffusion to be performed by Transpiration through the Pores of the Skin only, Astringents must rather hinder than promote it; since instead of rarifying and opening the Pores, they contract and shut them up; but since Astringents mixed with Discutients, are found beneficial, we shall endeavour to account for their Effects a more reasonable way. Forms of Discutients mixed with Astringents prescribed by Mr. Wiseman are as followeth. *Rx fol. & Rad. Althææ M. j. Flor. Cham. M. ss. Flor. Ros. rub. Nymphææ āā P. j. Sem. Cydon. ʒj. Flor. Fabar. orob. āā ʒiij. ss. coq. in sero lactis & f. Cataplas. sub fine addendo ol. ros. & chamæmel. āā. q. s. Or, Rx fol. malv. parietar. plantag. āā. M. j. sem. lini. fenugrec āā. ʒj. summitat. Absynth. Flor. Sambuc. āā. M. ss. Flor. Ros. rubr. M. j. coq.*

Whether
Astringents
promote the
Effects of
Discutients.

Of Tumours in General. Part I.

coq. in q. s. vini tenuis, addendo farinae hord. ℥iv. ol. olivar. immatur. q. s. f. Cataplasma.

If the Matter lies deeper, the following Cataplasin is prescribed by Mr. *Wiseman*. ℞ *Rad. Althe. Ebuli, Iridis recent. ℥ij. Rad. Bryon. cucum. agrest. āā. ℥j. fs. Flor. Cham. melilot. aneth. āā. M. j. sem. lini, fenug. āā. ℥j. f. Cataplasma, addend. axung. Anseris, anatis āā. ℥j. mel. Commun. ℥ij.*

Where stronger Discutients are required, especially in cold Tumours, the following may be made use of. *Summitat. Origan. Thymi, Calaminth. Puleg. rorismarin. Hyperici, centaur. min. bac. Laur. Junip. Sem. Cymin. Rut. &c. Gum. Galban, Ammoniac, Bdelium, Opoponax.* To which may be added these Compounds. *Ol. scorp. Nardin. Euphorb, petroleum, Unguent. Aregon. Martiat. Emp. de Ranis cum Mercur. de baccis Lauri, Cicutæ cum, Ammoniaco.* To which I shall add the following Prescription from Mr. *Wiseman*. ℞ *Rad. enul. Campan. Bryon. āā. ℥ij. Summit. puleg, origani, Scabios. Abrotan. āā. M. j. bac. Lauri, Junip. āā. ℥j. Sem. Cymini, ℥ss. coq. in aq. fontan. & vini alb. āā. ℥ij. Colat. add. Acet. Vin. ℥ij. Salis Nitri ℥j. M. f. Fomentatio.* Or, ℞ *Cin. Sartarmentor Salis Nitri āā. ℥j. ol. Vet. ℥iv. Cere ℥iij. Terebinth. clar. ℥j. M. f. Cerot.*

What is to be considered in respect of the Effects of Discutients.

Thus much being said of the Medicines proper, and commonly used in discussing Tumours, we shall proceed to consider more particularly the manner of producing their Effects. And since the Matter to be discussed is more firmly impacted and settled in the Parts, in the Increase, than in the Beginning; it will be requisite to consider, not only where it is lodged, and how Discutients attenuate and rarify it, but also, when it is attenuated and rarified, which way it is most likely to be disposed of, and carried off.

In respect of the Part where it is lodged, it must be either superficial, or deep; and consequently, must

must with more Ease, or Difficulty, be affected and worked upon by external Applications; for the more superficial the Humour is, external Applications must affect it, and exert their Qualities with more Vigour; and consequently, the deeper it lies, the stronger Discutients will be required: But in regard to the Part in which the Humour is contained, we are not only to consider, whether it be superficial or deep, but likewise in what kind of Parts it is lodged; *Viz.* Whether in a fleshy or a glandulous Part; or, whether in the Interstices of the Muscles, or about their Tendons; by which means we may know, what kind of Humours are to be discussed, and how they may probably be carried off.

But to proceed, let the Matter be lodged in any Part whatever, from what hath been said of the Nature of a Tumour, it is evident, that the Matter which Forms the Tumour, must be either coagulated in the Extremities of the Vessels, or else extravasated; and since it is so firmly lodged in the Part as to resist the Effect of Revulsion and Repulsion, we are to consider, what Discutients may do with it. And since they are applied only to the external Superficies of the Body, there must interpose a considerable Number of Vessels, through which several Humours circulate, according to the Depth of the peccant Matter; but if we consider the strange Porosity of human Bodies, (to evince which I shall refer the Reader to the Works of the honourable Mr. Boyle) and that Medicines which have discutient Qualities, are composed of Parts very penetrating and subtle, and emit very fine Effluvia, which easily, at a Distance, affect the olfactory Nerves; I say, if we consider all this, it will be no difficult Matter to imagine, how the subtle Effluvia of Applications, penetrating through those Pores, may affect the peccant Humours in the Tumour; for though the
Humours

Humours which circulate through interposing Vessels, might carry the Effluvia which pass into them, along with them, yet a great many would escape, and pass through the *Interstitia* of those Vessels.

How Discutients produce their Effects.

Now since milder Discutients consist of Parts, which are emollient, soft and mucilaginous, as well as that they emit subtle, aromack Effluvia, it is but reasonable to think, that by their emollient Qualities they will not only relax and soften the Skin; but that, as all Emollients, they will be anodyne and assuage the Inflammation and Pain, and that by relaxing the Skin, they will render the Pores more open, and ready to receive the gentle, aromack Effluvia. But when Discutients are stronger, and more powerfully emit their Effluvia, they themselves by their subtle, active Parts, will not only open the external Pores, but penetrating through the Pores of the Body, they at last exert their attenuating Qualities, on that Matter which occasions the Tumour; where their volatile and active Particles insinuating themselves betwixt, the grosser Parts of the stagnating Matter they gradually separate and divide it's Parts, and restore it to it's natural State and Degree of Tenuity and Thinness. That the volatile, aromack Effluvia of Discutients, do penetrate the Pores of the Parts, and attenuate the peccant Humour, is evident from their Effects; and that they produce their Effects by dividing and separating the Parts of that Matter, is as evident, since it could not otherwise be discussed. But when that Matter is attenuated, the Question is which way it is dispersed; it is generally supposed, that it transpires through the Pores of the Skin; but though the fine Effluvia of Volatiles may easily pass through the Pores of the Body, and be conveyed to the Part, yet it would be very difficult to imagine, how a Humour so gross as to be

Which way the Matter discussed is disposed of.

inca-

incapable of circulating through capillary Vessels, should readily pass through the finest Pores; for if this distempered Humour could find Passage there, much more would the thin and more attenuated Mass of Humours pass that way; but since that is impossible, it is more reasonable to suppose, that, when that Matter is render'd thin enough, it circulates along with the Mass of Blood; for, from what hath been said, it appears, that an Obstruction may be made without an Extravasation; and when the Humour, though too gross, is contained in it's proper Vessels, it is more reasonable to suppose, that it circulates again, when restored to its natural State, than to contrive it an impossible way through the Pores of the Skin.

But supposing the Humour were extravasated, when it is again attenuated, it would sooner be reassumed into its proper Vessels, the way it went out; or pass through the Pores of its own Vessels into its proper Channels, than make its way through several Vessels to the Pores of the Skin.

Since then it is most proper to suppose, that the Humour, which is the cause of Tumour, is by Discussion made thin enough to circulate through its proper Vessels; from hence appears the Reason, why Astringents mixed with Discutients may be serviceable; for when Discutients have divided and loosen'd the Parts of coagulated Matter, so as to restore it to its due Thinness, the Astringents contracting the Parts constrict the Vessels, and so promote its Protrusion through its proper Channels; whereas they are so far from assisting Transpiration, that by shutting up the Pores, they must needs hinder the Discharge of it that way, so that it evidently appears that Discutients mixed with Repellents only promote Repulsion.

Why Astringents mixed with Discutients are serviceable.

But

But when Discutients are made use of separatly, and the Humour lies superficial, and near the Pores of the Skin, they may probably dispose some Part of it to go off by Transpiration.

All that I shall need to add farther in respect of the Effects of Discutient Medicines, is, That as their very subtle and volatile Effluvia, divide and separate, and consequently disintangle the coagulated Parts one from another, and thereby contribute to the attenuating of the Humour; so, those minute Parts being in a quick Motion, raise a Ferment in the Part, and by their gentle Heat, cause the Humour there contained to expand it self; by which means, the Parts of it being separated one from another, give way for the *Serum* of the Blood, or the finer Lympha to interpose its Parts, and so render it more fluid. So Glue immersed in Water, over a Fire, when the active Parts of the Fire separate the Parts of that viscous Body, they make way for the Water to interpose it self; and thus, betwixt them both, they promote its Solution, and attenuate so firm a coagulated Substance.

I shall only add one thing further, to shew how reasonably the Matter discussed may be supposed to circulate in its proper Vessels again; and that is, what we commonly observe in Tumours made by Translation; where the morbidick Matter which occasioned a Tumour in one place, is evidently reassumed into the Blood, and again discharged and cast off upon another.

Suppuration, when to be promoted.

But when the Matter which produces a Tumour, is so firmly fixed in a Part, as to resist the Force of Discutients, and the Symptoms of Pain and Inflammation still continue, it is time to desist from the Use of them, and to make use of such Medicines as promote Suppuration, which are such as ease Pain and promote Concoction, by preserving and promoting the natural Heat of the Part. And that

that is to be done accordingly as the Part it self is wanting and deficient; for if a Tumour happen in a fleshy Part, which is of it self warm, it will more easily be brought to Maturity, than when they proceed from serous Humours, which lie cold about the Joints. If the Tumour proceeds from Blood, it produces laudable Pus, if the native Heat be strong, or be encouraged by proper Medicines; but if the Heat be faint, or other Humours be mixed with it, the Matter is accordingly more or less made, and differs in Colour, or other Qualities, according to the Qualities of the Humours.

If a Tumour be made by Translation, it sometimes hath Matter in it from its first Appearance, but they generally lie deep under the Muscles, and occasion no external Inflammation, till the Matter reaches near the Skin; therefore in these Tumours, the Symptoms of Suppuration are not to be waited for externally, but they are to be opened; as soon as any Quantity of Matters offers it self, to prevent its spreading or corrupting the Parts beneath it.

As for Medicines which promote Suppuration, *Medicines which promote Suppuration.* they are of two kinds, viz. Simple or Compound. The Simple are *Aq. Tepida* used in Fomentation, *Ung. maturum*, or the Fats of domestick Creatures mixed with Anodynes and Suppuratives. *Fol. malv. rietar. Mercurial.* decocted in *Hydrolæo* with *fari. Tritici*, &c. *Rad. lil. &c.* To these I shall add the following Forms of Cataplasms out of Mr. *Wise-* *an. R. Rad. Althææ. lil. alb. āā ʒij. fol. Tussilag. alv. bismalv. āā. M. j. coq. in brodio, terantur, ad-* *stis farin. sem. lini. ʒj. farin. tritici ʒij. axung. por-* *n. butyr. recent. āā. ʒj. ss. croci pulv. ʒij. vitel. ovi.* *ius. M. f. Cataplasma.* In cold Tumours, or where the Humours lie deep. *R. Rad. Brion. Lapath. acut.* *ā. ʒij. coq. & cribrantur per setaceum, addend. cappar.* *allior. sub cineribus coct. āā. ʒiij. ferment. acris. ʒij.* *alv. sem. lini & fanugrac. āā. ʒj. tritici ʒij. axung.* *poran.*

porcin. ℥ij. *mell. commun. axung. Anseris Croc. pulv.*
 āa. 3j. *M. f. Cataplas̃m.* When the Matter
 tough, *Gum. Galban. Ammoniac. Bdellium & Emp.*
de Mucilaginibus, Diach. cum Gum. &c. are conve-
 nient.

As Suppuration is nothing, but a Tendency to
 Corruption; so whatever promotes and encourages
 the natural Heat of the Parts, and quickens Dige-
 stion, hastens Suppuration, and the sooner inclines
 the stagnating Humours to corrupt and putrify
 for when once the Humours stagnate, and are ex-
 cluded from the rest of the Humours in Circulation
 they no longer can be esteemed Parts of that Body
 but rather superfluous and excrementitious; though
 for want of free Vent for their Exclusion, they are
 still retained within its Parts.

And since these peccant Humours, happen to be
 discharg'd in Parts, where Nature is unfurnished
 with proper Vessels for their Exclusion, they seek
 to force their own way by Suppuration.

*How Sup-
 puration is
 promoted.*

As for the manner how Suppuration is perform-
 ed, we are to consider, first, how it is performed by
 Nature, and how it is promoted by Art. The be-
 ter to understand how it is performed by Nature
 we are to consider the Qualities of the Humours
 which tend to Suppuration; and next, the Quali-
 ties of those Medicines that assist Nature.

By Nature.

And first, If Blood be the Matter to be suppu-
 rated, or be predominant, since it abounds not
 ly with volatile Salts, but is also strongly im-
 pregnated with sulphurous Particles, when it happens
 to stagnate and tend to Putrefaction, those sulphu-
 rous and saline Parts presently separate and dis-
 tangle themselves from the grosser Phlegm; and
 since the Parts of all volatile Bodies, are naturally
 in Motion, they gradually fret and separate the
 Parts of the grosser Phlegm; and even the tender
 Branches of the capillary Vessels themselves, till

Let the volatile and sulphureous Parts, being predominant, the Matter acquires the Form of Pus, and putrifies the adjacent Parts, till Vent is given, either by their own Force, or the Assistance of Art.

Thus by gradual Degrees of Digestion, Suppuration is promoted, which is likewise encouraged by the natural Heat of the ambient Parts; for as the natural Heat of the Parts is greater or less, so the Matter of the Tumour is kept accordingly warmer, its volatile Parts are sooner disintangled, and the Crudities digested, by the Influence of the warm *Effluvia* of the Humours about it. And as the warm *Effluvia* of the Parts promote Digestion and suppuration, so external Applications tend to hasten the Intentions of Nature, which, as they consist of more or less warm Parts, the volatile *Effluvia* of them, assist those inherent in the Matter more powerfully to exert themselves.

Now as a Tumour is more easily suppurated, when the coagulated Blood is the occasion of Tumour, by natural Heat, and the Assistance of external warm Applications; so when the Matter of Tumour is *Crude Serum* only, or lies about the Joints, there is still more Necessity of external Help, and the Applications are to be so much the warmer, since the Matter of the Tumour contains less volatile parts.

But as Medicines that promote Suppuration, are not only endowed with Parts that are warm and volatile, but also emollient and mucilaginous; we are likewise to consider, why those Qualities contribute to the promoting of Suppuration. Since then mucilaginous and emollient Medicines, tho' they have volatile Parts in them, yet, considered only as mucilaginous, they consist of Parts clammy and tenacious, and unapt to insinuate themselves into the Pores of the Skin, and consequently, can have no direct Effect

How assisted by Art.

Why Medicines mucilaginous and emollient promote Suppuration.

fest upon the peccant Humour; yet as they obstruct and stop the Pores of the Skin, they retain and keep in those warm Effluviūms, which might pass off by Perspiration, and so serve as a reverberatory Heat, in concocting and digesting the Matter of the Tumour.

*Discutients
sometimes
promote
Suppura-
tion.*

Before we proceed, it may not be amiss here to take notice, that Discutients themselves, if the Matter is too tenacious and viscous to be discussed, promote Suppuration, since they consist of Parts which are warm and emit volatile Effluvia.

*Tumours
when to be
opened.*

When the Matter of the Tumour is suppurated and turned into Pus; it is necessary it should be discharged, lest the Parts about it should be corrupted or corroded, as the Veins, Arteries, Nerves or Tendons: If it be near a Bone, or the Sutures of the Skull, it must be opened before the Matter comes to a perfect Suppuration, lest the Parts beneath it should be damnify'd; as also, in Abscesses of the *Ano*, or near the *Fauces*; in the former the *Rectum* being in danger of Putrefaction, and for fear the latter should strangle the Patient. Likewise in Abscesses of the Breast or Belly, we are not to wait for Suppuration, lest the Tumour should break inward; yet when Tumours are opened too soon they commonly are crude, hard to digest, and long in cure.

*Tumours to
be opened.*

Tumours are to be opened two ways, *viz.* either by Incision, or Caustick.

By Caustick.

Causticks are chiefly of Use in large Tumours where the Quantity of Matter is great, and the Abscess is to be kept long open, or where Bandage cannot be conveniently applied to keep in Tents. As to the Place where they are to be applied, it is to be observed, that it must be the most declining Part, for the better discharge of the Humour.

Caustick

Causticks are of different kinds, as *Lixivium Saponis* boiled to a solid Consistence, adding in the boiling to ʒvj. of the *Lixivium*, about ʒj. *Mitr. Roman*, and *Op.* ʒj. Or a Caustick may be made of a Mixture of *Lixivium Saponis* and *Calx viv.* or *Lapis Infernalis*, using due Caution to prevent the Caustick from spreading farther than we design, viz. by defending the Parts about with convenient Plaisters, to keep the Caustick within Bounds. When the Escar is formed, it may be separated, fomenting the Part with Milk or Wine, and dressing it with a common digestive, and an Anodyne Cataplasim over all. Or the digestive *Basil*, with *Ol. Oli-*
var. may be sufficient.

If a Tumour be opened by Incision, the Apertion, *Or Incision.* ought to be made where the Matter is chiefly contained, drawing the Knife towards the most declining Part. The Incision is to be made according to the Rectitude of the Fibres, except in the Groin or Armpit where it is to be made obliquely. In making Incision care must be taken to avoid wounding the Veins or Arteries, Nerves or Tendons. If upon Apertion by Incision a Flux of Blood insue, it is to be restrained by proper Medicines, as *pulv. Galen.* or *Ol. Terebinth.* hot, which will likewise promote Digestion.

If the Patient be weak and timorous, or the Wound large, fainting sometimes ensues, therefore care must be taken not to discharge too much Matter at once; but if that Caution, nor a convenient Posture, by laying the Patient on his back, will relieve it, then proper Cordials are to be administered to support the Patient's Spirits. The Spirits are also to be refreshed with *Epithemata*, made of some proper cordial Waters, or such Ingredients as may cherish and refresh the Parts.

If after the Apertion, and Discharge, there remains any considerable Hardness, either for want of

Fainting how relieved.

Hardness how relieved.

Suppuration, or occasioned by Pain and Inflammation, the next dressing it will be convenient to make use of Fomentations made of emollient Discutients; as *Summit. malv. bismalv. Flor. Cham. summit. Absynth.* which will gently cherish the Parts; by their emollient Qualities relieve the Pain, and by discussing and digesting the cruder Matter, relax the Tumour.

After Incision, what Dressings are proper.

When the Tumour is thus opened by Incision, and fomented, it will be requisite to dress the Part with Digestives, such as the following: *R. Terebinth. ʒj. Far. Tritici ʒij. Croci. pulv. ʒj. Vitel. ov. q. s. M.* If the Lips of the Ulcer be painful, it may be dress'd with the Yolk of a new-laid Egg, with *Ol. Rosar.* the following Cerot being apply'd: *R. Mucil. Sem. lini, fœnug. althææ extract. in decoct. hord. ʒij. Ol. lil. æsyp. amyg. dulc. āa. ʒj. B. Terebinth ʒj. cera ʒvj. aut q. s. f. Cerot. or Emp. Diachalcit.* with *Ung. de Althææ*, in form of a Cerot, may be made use of, with moderate Compress and Bandage. By these lenient Applications, the Part will be mollified and eased of Pain, the Skin being softened and relaxed, and by convenient Bandage, the Matter contained within the Lips of the Incision, gently press'd out as discutient Digestives dispose it.

How Digestives produce their Effects, I shall hereafter explain, when I come to speak of Ulcers in general; but since we have here taken notice of the Opening of Tumours by Caustick, it will not be amiss to say something in general of their manner of working and forming an Eschar.

How Causticks form an Eschar.

Since then Caustick Medicines, consist not only of Parts very subtil, sharp, and consequently corroding, but also of Parts tenacious and viscid, we shall not only consider how those corrosive Parts produce their Effects; but also, how the lenient or viscid Parts assist them in their Corrosion; and since they are applyed only to the Superficies of the *Cuticula*, we are likewise to consider

Consider, that as all Bodies, and each Part are subject naturally to a constant Transpiration of a serous Humour, which passes through the Pores of the *Cuticula*; so the *Cutis* it self is furnished with Glands innumerable, design'd for the Separation of this Humour, and proper excretory Vessels to convey it to the Pores of the *Cuticula*. Now since this Humour is constantly by the Course of Nature, transuding through the *Cuticula*, upon the Application of a Caustick, the viscous tenacious Parts stop up and obstruct the Pores of the *Cuticula*, so that the Serum which usually passed out through them, can be no longer discharged, but is heaped up and collected betwixt the *Cuticula* and *Cutis*: But though the Pores are so stopp'd as to prevent the Exit of the Serum, yet the very subtile and penetrating Particles of the Caustick, may insinuate themselves and mix with that Serum which ought to have been discharged; and since that Serum is of so sharp a saline Nature, as when it is by accident retained too long, to fret and corrode the Parts about it, when it is strongly impregnated with the corrosive Particles of the Caustick, it acquires so great an Acrimony as to corrode and destroy the Parts with much greater Violence, the subtile and sharp Particles of the Caustick insinuating themselves betwixt the Parts of Matter that compose the Vessels, and by that means dissolving their Texture and Continuity. Nor does this Caustick Quality cease or lose its Force, till the Matter corroded is sufficient in Quantity to intangle all its Parts, so that they being separated and dispersed wholly in their own Ruines, are able to exert themselves no further, but lie buried and stifled in the Eschar they have formed.

How the
Separation
of the Es-
char is
made.

When the Eschar is formed and dressed with Digestives, though we consider not here the Use of Digestives in General, yet it will not be amiss to enquire how they promote the Separation of that Eschar. Since then that Part of the Eschar which is next to the sound Parts, is not so dry and crusty as its outside, but is constantly moistened with that natural Humour which flows from the sound Part; and since that Humour there stagnates, and is out of the Way of Circulation, it will have the same Tendency to Suppuration as the Matter which first occasion'd the Tumour, and will have the same Assistance from Nature and external warm Applications to assist it, besides being in some measure impregnated with corrosive Effluvia from the Eschar, it will the sooner be disposed to Rottenness and Corruption; and when it is sufficiently suppurated, that suppurated Matter interposing betwixt the sound Parts and the Eschar, must needs separate and make it loose and cast off.

Now when the Eschar is separated, and the Part sufficiently digested with *Basilic.* dip'd in *Oil. Lil. Terebinth.* or any other proper Digestive, it will be convenient to make use of Detergents, such as *Mundif. ex Apio*, or *Paracels.* the latter of which is thus made: *R. Terebinth. clar. mellis despumata. aa. libb. vitel. ov. No. iij. coq. ad consist. unguent.* If the Matter of the Ulcer hath not sufficient free Discharge, it must be helped by Compress and Bandage; and if the forementioned Detergents are not strong enough, they may be quickened with *Merc. præcip. rubr.* or *alum. ust.*

If Detergents are not too strong, they will also serve to incarn; or the following may be made use of: *R. Terebinto. Venet. ℥iij. Pulv. aristolochi. mund. Ireos. Thuris aa. ℥iij. Mastich. Myrrh. Alo. aa. ℥℥. Cadmia ʒvj. Mel Rosar. q. s. f. Unguent.*

If the Flesh grow loose and spongy, it may be gently touched with the Vitriol Stone, or Alum, which will make the Flesh firm, and likewise dispose it the better to cicatrize.

When the Tumour is incarned, it may be cicatrized with *Unguent. Rubr. desiccativ. or calcis, &c.*

Thus much of Tumours in General made by Fluxion. As for Tumours made by Congestion, the Cause and Symptoms being of a different Nature, so the Intentions of Cure also vary.

And first, Bleeding is not so absolutely necessary, the Constitution being colder and without a Fever; and in weak Bodies it is altogether to be avoided, lest it incline the Patient to a Dropsie. However, Purging ought to be stronger to discharge that gross Humour which occasions the Tumour, as *Agarick, Hermodact. Scammon. Jalop, Colothynth. Pil. coch. ex duobus, Elect. è Suc. Rosaeum, &c.* Derivation by Issues or Setons are also useful, Discutients are also serviceable, but they must be of the hottest kind. They seldom suppurate, except they have Blood mixt with them; but when they have, they are to be treated all one as Tumours made by Fluxion.

To what hath been said of Tumours, it only remains that we should add, what Regimen is to be observed in Diet, which is to be varied according to the Difference of Constitutions, and the different Natures of Tumours.

In Tumours made by Fluxion, if the Patient be strong and full of Humours, and the Inflammation considerable, a slender cooling Diet is convenient; but if the Patient be weak and thin, such Diet as will cherish and support Nature, and of easie Digestion, are proper; but whatever is of hard Digestion, which may heap up Crudities, must be avoided. If a Fever attend the Tumour, it must be treated accordingly. As for Drink, the same

Rules are to be observed as in Eating : For if the Patient be strong, and the Symptoms violent, Purgans or small Liquors are convenient ; but if the Person be weak, it will be requisite to make use of such Liquors as may support his Spirits and preserve the natural Heat. And even in strong Bodies it is to be observed, that if, except Necessity requires, the accustomed Habits be altered at once, and the common Course of Nature, it frequently happens to be prejudicial and occasion Humours to be heaped up of another kind, as prejudicial as those we would correct. However, the same Diet and Method of living be observed yet it ought to be more sparingly. The Air ought to be temper'd so as neither to be too cold to chill nor too warm to inflame the Humours. As for Exercise, if the Tumour be large, it will forbid that it self, but if small, the Consequences will not be material. Sleep ought to be moderate, and forbidden in the Day, perverting the regular Course of Nature, and making the Patient restless at Night.

In Tumours made by Congestion, the Diet ought to be moderate in Quantity, but such as is heating, strengthening, and attenuating, and easie Digestion. Their Drink likewise ought to be such as will strengthen their Spirits and Blood : As Ale or Wine, or if the Humours be thin, their Drink may be made of medicinal Ingredients, as *Sarsaparil. China, Lign. Guai. Lestiscin. &c.* The Air ought to be warm and attenuating, and their Exercise and Sleep moderate.

CHAP II.

Of an Inflammation or Phlegmon.

AN Inflammation or Phlegmon, is a *Description of a Phlegmon.* hot Tumour of a red Colour, attended with Tension, Pulsation, Pain, and circumscribed Hardness, and a Fever, if it be very large. The Reason of its Symptoms may easily be accounted for, by considering its Cause.

Phlegmons differ, either according to their Place, *Differences.* as whether internal or external; or according to the Part affected; from which they are called by different Names. If an Inflammation happens in the Lungs, 'tis called a *Peripnumonia*; in the Pleura, *Pleuritis*; in the Throat, *Angina*; externally near the Throat, *Angina Notha*; in the Eyes, *Optthalmia*; in the Glands about the Ears, *Parotis*, &c. They differ likewise according to the difference of the Matter that forms them, being either simple or compound, when complicated with some other Distemper, from which they take their Denomination; and thus a *Phlegmon* may be either said to be *Erysipelatodes*, *Phlegmatodes*, *Oedematodes*, or *Schirrholdes*.

As to its Cause, we are to consider the Nature *The Cause.* of the Antecedent, as well as the material and conjunct Cause; as also we are to observe the manner how that Matter occasions the Tumour, which is the formal Cause.

And first, as to the antecedent Cause; since the Blood, as well as the rest of the Mass of Humours, as long as it retains its natural Crasis, and is free from a Mixture of heterogeneous Parts, is capable of circulating through all the most minute capillary Vessels, consequently no Disease can happen:

*Gross phleg-
matick
Humour.*

*How the
Blood and
Serum
come to be
too gross.*

happen: But if by Accident, the natural Crasis and Disposition of the Humours happen to be altered and depraved, those depraved Humours being gradually heaped up to a Quantity, they at last cause such an Alteration, as to produce some evident Effect.

Now since in a Phlegmon it is evident that the natural and free Circulation is perverted, it must happen, because the Humours are too gross to pass through the small capillary Vessels; how the Humours for want of free Circulation, may occasion Tumour, Tension, Pulsation, and the rest of the Symptoms of Tumour, I have already shewed in the foregoing Chapter of *Tumours in General*: It will be sufficient therefore in this place to take notice, that as the Blood, or other Humours, are too gross to circulate, that the antecedent Cause must be Phlegm, the Blood or its Serum, or both, being by a mixture of it, rendered too thick, and consequently apt to obstruct the Vessels; and since the conjunct Cause, which is the Matter of the Tumour, thus shews us the Nature of the Antecedent, it may not be amiss to consider how the Blood and its Serum come to be too gross and thick. And that may happen either by an internal or by an external Cause; by an internal Cause the Blood and its Serum may be rendered too gross, when by a Crapula, the natural Digestion is depraved, or when by the Fault of the Stomach and Indigestion, the Chyle is not sufficiently concocted and purged of its Phlegm; and by that means Crudities are heaped up in the Mass of Blood, and make the Serum of the Blood gross and thick; and that Crudities thus heaped up in the Mass of Blood, may, and do occasion Tumours, is evident, since those Bodies that are most subject to them, are not only *phlebotrick*, but likewise full of gross Humours and *cochymia*; and as those Bodies which are plethorick and phlegmatick are generally more subject to them

than

than others, so accordingly as they are more or less sanguine and hot, they are more or less attended with Heat and Inflammation.

But the Blood and Serum may not only be render'd too gross and thick by Indigestion, but also by external Causes; as by violent Cold; for though the Blood and Serum be well digested and of their natural Crasis, yet by the Violence of external Cold, they may be so chilled and coagulated as to be render'd unfit for Circulation, and that the Blood and Serum are too gross and thick to circulate freely, is evident, not only from the conjunct Cause, which is a Specimen of the Antecedent, but is also apparent in the Blood drawn from such Bodies, which is manifestly too thick, and the Serum viscid and lousy.

From what hath been said, it appears that a Phlegmon may be occasioned by the Blood and Serum, being too thick, as is evident in pleuritick Blood, where the Blood and Serum are both in Fault; yet in some Phlegmons, though both be faulty, they are only occasioned by the Fault of the Serum, the Tumour being made in glandulous Parts, as *Angina, Parotid*; but those which are formed in fleshy Parts, have a Mixture of both concern'd; for though the Serum it self were only the Occasion, yet if Serum occasion an Obstruction, and hinder the free Circulation, the Blood being stopp'd with it will also make up part of the conjunct Cause of the Tumour, though being of a good Temperament, it perhaps might be no part of the antecedent Cause.

But in Phlegmons, the Blood and Serum are not only too thick, but sometimes this grosser Serum is endowed also with other Qualities, as Acrimony, or tinctured with cholerick Parts, or accompanied with a thin sharp Serum; but of those more when we come to the particular Cases. It is sufficient

The Matter of Tumours complicate.

sufficient here that we have shewed how a Phlegmon may be produced by the Grossness of the Blood or Serum, or both; yet in plethorick Bodies, where the Vessels are much extended, and the Blood hot and in a great Ferment, it may perhaps force it self so plentifully upon the tender Vessels, as to occasion a Rupture of them, and consequently an Extravasation and Tumour, as I have shewn in the foregoing Chapter of Tumours in general.

Thus much of the Causes of Phlegmons. As to their Symptoms, of Tension, Pulsation, and Pain, they have been already accounted for in the Chapter of Tumours in general: And as for their circumscribed Hardness, that must proceed either from the violent Extension of the Vessels, whilst full, or the Grossness of the Matter contained in them after the Tumour is open, Vent being given for the third part to run off, the grosser being left behind.

The Diagnosticks.

Having said what may be requisite as to the Causes of Phlegmons, especially those which are external, which are the Subject of this Chapter, we shall proceed to their Signs or Diagnosticks, which are great Pain and Heat, an inflamed red Colour with Swelling, Hardness, Pulsation, and Tension. When the Tumour is at its State and suppurates, it rises into a Cone, and the Matter may be perceived to fluctuate under the Fingers, the Skin being thin and of the Colour of the Matter under it; and then the Symptoms abate.

The Prognosticks.

The Prognosticks are good when the Tumour diminishes upon the Use of Repellents or Discutients, or when the Matter tends to Suppuration, and ripens into a well digested Pus. If the Tumour sink, and the Accidents and a Fever continue, it is an ill Sign, for either a Gangrene or some other ill Symptoms succeed: If the Tumour were upon the Crisis of a Fever, a Relapse is occasioned, which is often fatal. It is an ill Sign also when the Ma-

grows hard, and the Pain ceases, there being Danger of a Schirrus. These Tumours are more difficult of Cure in fat People than lean, and about sinuous Parts than in fleshy ones, and have more violent Symptoms. After large Tumours purging is necessary, and such Medicines as may regulate the Crasis of the Blood, lest Crudities and Weakness lead the Patient into any other Disease.

In the Cure, there are four general Intentions: *Intentions of Cure.*
 The first is, to observe a regular Diet, and a due Use of the rest of the six Non-naturals. The Second is to prevent the Influx of Humours. The Third is, to evacuate the Humours already collected in the Part. The Fourth is, to remove and prevent ill Accidents.

And first, The Diet ought to be moderate, lest the Humours being heated, or the Vessels filled too full, should occasion them to flow too much upon the Part affected; yet regard is to be had to the Patient's Habit of Body, and the Custom of Living; for as the altering of a customary Way of Living is prejudicial to a Body in perfect Health, much less is it convenient to alter the Course of Nature when it is already perverted. Drinking is to be regular, yet suitable to the customary Liquors, which ought not to vary in Quality, but only in Quantity; for if the Blood wants its natural Degree of Fermentation and Heat, it will, by being depressed, grow dull and Phlegmatick; whereas on the contrary, if it be exalted above its natural pitch, it will not only increase Inflammation, but cast off and separate a great deal of Phlegm, which might otherwise retain its mixture with the Blood, and continue inseparable from the Mass. As for the rest of the six Non-naturals, they are to be regulated as observed in the Chapter of Tumours general.

The

*The second
Intention.*

The second Intention is, to prevent the Influx of Humours, which is to be done, by emptying the Vessels, and evacuating the *Cacochymia*. The first is done by Bleeding, which being in Quantity according to the Strength of the Patient, makes Revulsion by emptying the Vessels, and eases Pain by abating the Heat of the Blood. The latter viz. discharging the *Cacochymia*, is done by purging Medicines of lenient Qualities, which make Evacuation without heating, such as *Elect. Lenitiv. Diacatholicon, Cassia, Manna, Tamarind, Cremor Tartar.* Infusions of *Senna, Rhubarb, &c.* But besides bleeding and purging, it will be requisite to give such Draughts as are of an anodyne Quality to compose the irregular Motion of the Spirits, and so allay the Heat of the Blood; as Emulsions of the greater and lesser cold Seeds, with *Decoct. Herbarum dei, and Syr. de Mecon. Papav. Rhæad. Paraly.* &c. in proper Vehicles.

*The third
Intention.*

The third Intention is to discharge the Humours already collected in the Part, and which are the immediate conjunct Cause of the Tumour. How Revulsion, Derivation, Repellents, Discutients &c. contribute to this Intention hath been sufficiently explained in the former Chapter of Tumours in general, I shall here only add some proper Forms in each particular Intention from Mr. Wiseman.

And first as in the Beginning it is necessary to make use of Repellents, except in Tumours which are either malignant or critical, any of the following Forms may be convenient. *R Cerae alb. ʒi. Ol. Rosat. omphac. lbj. novies laventur aq. font. inde aceto subigentur.* Or, *R Emp. Diachalc. ʒi. Bol. Armen. ʒiij. Bac. Myrt. ʒij. aceti vini coch. Ol. Myrt. q. s. f. Cerot.* Or the following; *R Fardbord. ʒvj. Cort. granator. pulv. ʒij. Pulv. Balust. ʒij. Suc. Sedi. Maj. ʒiij. Vini rubr. q. s. coq. ad cons.*

ent Cataplasim. & in fine Coctionis add. Ol. Myrt.
but they must be renewed every Day, other-
wise they will grow too dry and only heat the
Part.

When Tumour and Inflammation increase with
Hardness, it will be requisite to add to Repellents,
such Medicines as may soften and assist Repellents,
dissolving the Humours; in which case the fol-
lowing may be convenient: R̄ *Fol. malv. parietar.*
antag. āā. M. j. farin. hord. & fabar āā. ʒij ss.
Flor. ros. rubr. pulv. ʒss. coq. in aq. fontan. f. Cata-
plasm addendo in fine Ov. integr. N°. ij. Ol. Cham.
far. q. f.

If the Tumour grow so hard that Repellents are
to be desisted from, emollient Discutients are to be
made use of, as R̄ *Rad. & fol. Althææ āā. M. j.*
lini & fœnug. āā. ʒvj. Flor. cham. melil. pulv.
āā. ʒij. farin. hord. & tritic. āā. ʒvj. f. Cataplasim.
addend. mellis ʒij. Ol. Sambucin. axung. anseris āā. ʒj.
If the Tumour decline, R̄ *Fol. Parietar M. ij. Sem.*
lini fœnug. āā. ʒss. summit Absinth. anethi flor. Cham.
Sambuci pulv. āā. ʒiiij. Flor. ros. rubr. ʒss. Farin. len-
tum & fabar. āā. ʒiv. coq. in Vino & f. Cataplasim.
addend. Ol. Lumbric. anethi āā. ʒij. Mel. com. ʒj. ss.
R̄ *Emp. de Mucilag. oxycroc. āā. ʒij. diachyl.*
erat. ʒj. Ol. Aneth. q. f. Of. Cerot.

The fourth Intention is to remove Accidents, The Fourth Intention.
of which Pain is the chief, for it not only exhausts
the Spirits and destroys the Temper of the Part,
but also increases Fluxion. To remove this Sym-
ptom, the following Cataplasim may be proper.
R̄ *Fol. Visc. pomor. cum fructibus, āā. M. j. fol. hyos-*
cyami M. ij. fol. papav. M. j. sub cineribus coquan-
ter, addendo tandem mic. panis alb. in lacte tepido
macerat. ʒss. vitel. ovor. N°. ij. Croci ʒj. Ol. Cham.
& Rosar. āā. q. f. f. Cataplasim.

If a Fever attend the Tumour, it is relieved
by Bleeding, and relieving those Symptoms which
pro-

promôte and encourage the Disorder of the Spirits and the violent Ferment of the Blood, and cease when the Tumour terminates, whether it be in Discussion or Suppuration.

As for the manner of Suppuration, and the Qualities of Medicines that promote it, we have sufficiently explained them in the Chapter of Tumours in General, being such as encourage the natural Heat of the Part and the inherent Qualities of the Humour which forms the Tumour, by the volatile Effluvia, and causing a reverberatory Heat by stopping the Pores of the Skin, as all mucilaginous and viscous gummy Parts do. To promote Suppuration, I shall transcribe the following Formula from Mr. Wiseman. *R. Rad. Althæ. & lil. alb. ʒiv. branc. Ursm. M. j. coq. in Brodio aut lacte mollietiem, deinde add. medul. panis alb. tʒss. sem. lini pulv. ʒij. axung. porcin. gallinac. ʒij. Vin. ovor. N^o. ij. Croci ʒij. M. f. Cataplasma. Or R. rad. lil. ʒij. cepar. coct. sub cineribus ʒij. Summit. Althæ. M. ij. cancar. ping. tost. N^o. vj. coq. & contusis ad fann. trit. ʒij. pulv. sem. lini ʒj. axung. porcin. Unguent. basil. simp. ʒj. Ol. lil. q. f. cum vitel. ovor. & Croco f. Catapl.*

When the Tumour suppurates, the Symptoms decline, except it lie deep, and then they continue till the Matter is discharged. When Tumours are opened too soon, they are crude and long a healing; and on the contrary, if the digested Matter too long retained, it will be apt to corrupt the Parts about it, and if deep, may occasion Sinusity. How a Tumour is to be treated after Apertion, hath been shewn in the Chapter of Tumours in general, and will be further accounted for in the Chapter of Ulcers in general.

C H A P. III.

Of an Erysipelas.



AN *Erysipelas* is a hot Tumour which *Descripti. n.* affects the Superficies of the Skin, with a shining pale red, or citron Colour, without Pulsation or circumscribed Tumour, spreading from one place to another. It commonly begins with some little Rigor, and is continued with a Fever.

As the Humour more or less degenerates from *Differences.* its natural State, so do these Tumours differ; as also as the Humour is complicated and mixed with a Humour of another kind; from which Complication they acquire additional Epithites, as *Erysipelas Oedematoides*, *Phlegmonoides*, *Shcirrhodes*, &c. A simple *Erysipelas* only affects the Skin of the Face, Head, Breast, Back, Legs, Thighs, or Arms; but when it is compound, and mixed with other Humours, the Flesh and other adjacent Parts are affected with it. As the Humour is less or more virulent, so the Part is of a red or other Colour.

As to the Cause of a simple *Erysipelas*, since it *The Cause of an Erysipelas from an internal Cause.* only affects the Skin, we may consider, first the Nature of the Part, and then the Nature of the Humour. And first, the Skin is not only furnished with a great Number of small capillary Vessels interwoven betwixt its proper Fibres, but also a vast Number of small Glands for the Separation of that Serum which goes off by insensible or sensible Transpiration; as also proper excretory Vessels to convey it to the Pores of the Cuticle. The Cutis is likewise furnished with an infinite Number

of sensible Fibres, which make it capable of distinguishing by Touch, very sensibly, whatever Bodies are contiguous to the Cuticula; but when they have an immediate Contact of any thing, without the Interposition of the Cuticle, they are of much more exquisite Sense. Having thus considered the Structure of the Part, it must follow, that whatever produces a Disease in this Part, it must shew its Effects either in the Blood-Vessels in these Glands, or the excretory Vessels, or it must lie betwixt the Cutis and Cuticula for want of a Discharge through the Pores of the Cuticula, and as it hath different Qualities, variously affect the fibrous papillæ that form the sensory of feeling; since then in these Parts, as well as in all others, the Humours will have their free Passage, and discharge, as long as they retain their natural Degree of Fluidity; for though, the Blood or Serum should be either too sharp or cholerick, yet I say, if it retains its just degree of Fluidity, it would still maintain its free Passage without producing any violent Symptoms; as it does in scorbutick Bodies where the Serum is very sharp and acrimonious; yet since it is thin and fluid, it hath no ill Effects in the Skin, though in other Parts it shews its acrid Qualities, as in Ophthalmia's, where the Sharpness of this thin Serum is offensive to the Eyes; or else it shews it self in spitting even to the Degree of a Salivation; and in the Jaundice, though the Blood and Serum are strongly impregnated with Choler, yet being thin enough to circulate along with the Blood, it produces no other Effects in the Skin than to stain the Parts with its Tincture.

From what hath been said, it appears, that whatever produces a Disease in the Skin, especially a Tumour, it must be because it is too gross and thick to circulate through the Vessels; and

since

since the sanguiferous Vessels contain both Blood and Serum, if the Effect be produced in them, it may be either the Fault of the Blood or Serum, or both; but if it be produced in the excretory Vessels, through which it is to be discharged, it must be the Fault of the Serum, since the Blood cannot come there without a Rupture of the Vessels and an Extravasation: That Blood is concerned in this Tumour, is evident, since for want of its free Passage, the Blood-Vessels are so extended as to make the Skin appear more ruddy than naturally, and that the Serum is likewise faulty is as plain, since for want of its being thin enough to pass through the excretory Pores, it stains the Surface of the Skin of a yellowish Colour, as it happens to be more or less virulent; and often for want of its Exclusion separates the Cuticula and raises Blisters.

Now as the Retention of the morbidick Matter in the Skin is occasioned by its being too gross to pass through the Vessels; so when it is so retained, it produces different Effects according to its other different Qualities. If the Blood be only impregnated with cholerick Humours which heat and enliven it, and render the Serum only sharp and acid; the Skin then appears only of a red Colour, the Vessels distended with it, only distinguishing themselves; but if the Serum of the Blood be much impregnated with cholerick Parts, as to make it a Tincture, it then stains the excretory Glands, and likewise the Cuticula, so that the Cuticula appears to be of a yellowish Colour; but when both the Blood-Vessels are distended, and the Serum is moderately stained, the Yellowness of the Cuticle does not altogether over-power and hide the distended Blood-Vessels, the Skin appearing of a yellowish Colour mixed with red.

The Cause
of an Erysipelas
volence.

From what hath been said, it appears, that an Erysipelas proceeds from hot cholerick Blood and Serum, being too gross to pass through the Vessels freely, as the humours ought to do naturally; now since the Skin is plentifully furnished with nervous *papillæ*, when this sharp pungent Serum is retained by its Grossness betwixt the Cutis and Cuticula, it pricks and vellicates the nervous *papillæ* so much as not only to cause a sensible prickling Pain, but also a violent Sensation of Heat.

Having hitherto given a rational Account of the formal and conjunct Cause of this Disease, from thence it is easily known what was the Antecedent; since this hot cholerick Blood, complicated with Phlegm, must needs be in the Mass of Blood before it could be thrown upon the affected Part. Now when the morbidick Matter happens to lodge it self in any Part, as the Blood hath more or less of the same kind of Humour remaining in it, it is the Disease attended with a more or less violent Fever. If a Fever preceded the Erysipelas, then it is critical and Symptomack; but if an Erysipelas precedes the Fever, then the Fever is only symptomatical, and ceases with the Erysipelas.

Of an Erysipelas
from an external
Cause.

Thus much of an Erysipelas proceeding from an internal Cause. But sometimes it proceeds partly from an external Cause, as Contusion, Fracture, the Heat of the Sun, Fire, or sharp Medicines; yet these external Causes contribute not to the Distemper without a predisposed cholerick Humour in the Mass of Blood; but when there is a predisposed Humour in the Blood; when the Blood by any Accident is put into a more than ordinary Heat, this predisposed Humour is by that means separated and discharged upon some Part or other where it exerts its Qualities; and by occasioning a violent Sensation of Heat and Pain, disorders the Spirits, and puts the Blood into a more than ordinary

inary Ferment, which causes a greater Flux of Humours to the Part, and consequently greater Pain, till at last the Blood being violently heated, produces a symptomatick Fever.

The Diagnosticks of an Erysipelas, are a shining yellowish Colour, mixed with red here and there, a violent Heat with a pricking Pain blistering the skin, and moving from one Place to another.

As to the Prognosticks, a simple Erysipelas hath very moderate Symptoms, the Fever decreasing as the Erysipelas increases, the Mass of Blood being so much the more free of the distemper'd Humour. If the Humour be drove back or retracted into the Mass of Blood, it causes violent Symptoms, and often Death. Suppuration in an Erysipelas is not good, it being succeeded by Corruption. An Erysipelas upon a Bone is very ill, especially if a Delirium happen upon it, any Distemper affecting the Brain, being of ill Consequence. The best Termination for an Erysipelas is by Transpiration, since it shews that the Humour is corrected and rendered thin enough again, to pass through the Vessels designed for the Separation and Exclusion of it.

In the Cure of an Erysipelas, we are chiefly to consider the Habit of the Body, which since it abounds with cholerick Humours, the Cure is chiefly to be effected by Diet and internal Medicines.

The Diet ought to be such as may moderate and dilute the cholerick Humours, both to temperate the violent Heat of the Blood, and to dispose the Humours more easily to go off by Medicines; as Grewel, Panadoes, Chicken-broth with cooling Herbs. Their Drink, Ptisans, Emulsions and cooling Juleps; as *Aq. Boragin. Endiv. ace.* *Lactuc. portulac. &c.* with *syr. è Succo Citri, Limon. granator. Rhub. Idæi, violar. &c.* avoiding all hot Liqueurs that may heat and inflame the

Blood. Rest is to be promoted by gentle Anodynes.

When
Bleeding is
most requi-
site.

If an Erysipelas happen upon Wounds, or affects the Head or Throat, Bleeding is convenient; when the Head is affected, lest it affect the Brain likewise, and cause a *Phrenites*; and when it affects the Throat, lest it cause an *Angina*, and endanger Suffocation. But if it happen only in the Skin, where no noble Part is concerned, Bleeding is to be avoided, lest it make a Retraction of the Humour into the Mass of Blood, and occasion ill Symptoms: In such Cases the Humours are to be discharged by purging Medicines, which are lenient and evacuate without putting the Humours into a Ferment and heating the Blood; as *Cassia*, *Manna*, *Rhubarb*, *Tamarind*, *Crem. Tart. &c.* in Whey, or a Decoction of the opening Roots, with *Syr. è Cichor. cum Rheo*, *Syr. Rosar. solut.* Or *Elect. Lenitiv.* *Diacatholicon è suc. Rosar.* When purging is not convenient, it is proper to keep the Body open by Clysters.

If an Erysipelas proceed from external Causes, it may be convenient to use Medicines of a cooling Nature, yet not too astringent, lest they hinder Transpiration, and so by retaining the Humour, render it sharp and corroding, or incline it to the Apostemation; they ought also, besides their refrigerating, to have lenient Qualities to allay the Pain and Inflammation: Simple Medicines proper in such Cases are, *Umbelic. Veneris*, *polyg. num*, *plantag. trifol. palustre*, *portulac*, *psyllium*, *sempervivum*, *solanum*, &c. Compounds are, *Ceratum Galeni*, *Unguent. Nutrit*, with a third part of *Populeon*: Or, *R. Ceruss. ℥viij.* *Lytharg. Auri ℥iv.* *Mucilag. Sem. psyll. cydon extract. in. aq. Solani Suc. Solani umbelic. Veneris āa. ℥iij.* *acet. cochl. iv.* *Ol. Ros. & Myrt. āa. ℥ss.* *Sevi vitulin. ℥iv.* coq.

*ad succor. consumpt. deinde add. thuris 3x. Cera.
q. s. f. Cerot.*

In an Erysipelas proceeding from an external Cause, there is not so much Danger of retracting or repelling the Humour into the Blood again, since in such Cases the Blood does not so much abound with the predisposed Humour, but that it might be contained amongst the rest of the Humours, without any evident ill Symptoms, were it not excited by external Causes; therefore those concurring Causes, and the Symptoms, being obviated and appeased by proper Applications, the Humour may safely swim in the Mass of Humours as before, till it can conveniently be discharged by lenient Purges and proper Medicines.

But if an Erysipelas proceed from an internal Cause, since it is the Quantity and Qualities of the peccant Humour within, that occasions the ill Symptoms both in the Blood and the Part affected, and excites Nature to make a Discharge, it must consequently be of ill Consequence to drive the Humour back again into the Mass of Blood, out of the Parts; since by its Discharge the Fever and internal ill Symptoms being abated, must consequently be exasperated upon its Retraction or Repulsion, the Quantity of peccant Humours being by that means augmented within, and Nature overpowered with a greater Quantity than can be mixed and retained amongst the Mass, and should she be forced to make a second Discharge, it might happen to be upon some noble Part, and occasion very dangerous Symptoms, or Death; besides the Fever it self by this Means, would again be more exasperated and violent.

In an Erysipelas therefore, proceeding from an internal Cause, though it may be proper to make use of cooling Applications to temperate and moderate the excessive Heat of the Parts, and to check

the violent Ferment of the Humours; yet they ought to be milder, and not so strong as to repel and drive the Humour back again into the Blood; but Medicines which moderate the Heat and Inflammation by their lenient Qualities, and which promote the Discharge of the Humour by Transpiration, are much safer; yet Care must be taken lest such Medicines as promote Transpiration consists of hot Parts, which may add to the Heat and Inflammation. *Decoctum Salviae* with a Solution of *Castile Soap* may be sufficient, applying afterwards *Ceratum Galeni*. In those that are critical *Ol. Olivar. cum Cera* may be proper. If the Heat be violent, external Applications are frequently to be renewed, lest they become too dry, and excoriate the Parts. If the Parts excoriate, the Excoriations may be dressed with the following *R Troch. alb. Rhasis & Tutie pulv. aa ʒi. ss. plumb. ust. ʒi. camph. ʒss. ceruss. ʒi. ss. ol. Ros. ʒvi. sevi agnini ʒiij. ceræ alb. q. s. f. unguentum in mortar. plumbeo, per duas horas agitatur. or unguentum Tutie* may be made use of. If Fomentation be necessary, *Olibanum* and *Myrrh* decocted in Wine, or a Decoction of Coleworts is commended: Also *ap. calcis* shaken together with *ol. Lini*, or *sacchar. Saturni*, beat up with *ol. Rosar.* may be made use of applied with a Feather twice or thrice a day; these Medicines being lenient, and moderately drying up the Humours, and cooling the Parts without driving the Matter back again into the Mass of Blood.

Discutients
when to be
used.

When the burning Heat of the Part decreases and the Pain diminishes, the Skin being sufficiently relaxed, Resolvents and Discutients may be proper to strengthen the Part, and restore it to its natural Tone, which otherwise for want of Discutients often become OEdematous; for the Fibres of the Parts being distended beyond their Tone by the peccant Matter heaped up in them, lose their Power of Contraction, and so give way for

For superfluous Humours to lodge in them, which would otherwise pass off through the Pores by Transpiration; besides, the morbidick Matter which had lain so long in the Parts, the thinnest Part of it transpiring, might be rendered too gross to pass through the excretory Vessels or Pores; but its Parts being divided and separated, by the Interposition of the volatile Parts, and subtle *Effluvia* of Discussants, and diluted by fresh *Serum* from the Blood, is not only render'd thin enough to pass off by Transpiration; but the Fibres more easily disposed to contract to their due Tone of Constriction. Fomentations proper to strengthen the relaxed Parts, and to discuss this Matter, may be made with *Summitat. Abinth. Flor. Cham. Sambucin. Ros. rubr. &c.* in Wine, with an Addition of Brandy; or the following Emplaster may be made use of. *R. farin. fabar. Orobi. āā. ʒi. sem. fenugr. ʒi. flor. sambuc. rosar. āā. ʒi. ss. pulver. & coq. in hydromel, ad consump. humiditatis, deinde add. ol. anethi & cham. q. s. f. Emp.*

If an *Erysipelas* tend to Induration, the Matter being disposed to harden by its long Continuance, and the Evaporation of its thinner Parts, Medicines are proper, which mollify and discuss more powerfully; as *R. Rad. Althææ & Lil. āā. ʒi. ss. sem. lini fenugr. āā. ʒij. coq. in Brodio Cap. Vervecin. & extrahatur mucilag. cui add. ol. ex pedibus bovin. pingued. gallin. ol. amygd. dulc. āā. ʒij. adip. agnin. & vitulin. āā. ʒi. ss. medullæ ʒij. Lytharg. Aur. ʒiv. Cera q. s. f. Cerot.* by whose volatile Parts the indurating Matter is gently dissolved, and the only Mucilage stopping the Pores of the Skin, the thinner *Serum* is prevented from flowing off too fast, which by that means helps the better to soften and dilute the gross Matter, which might otherwise grow more viscid and indurate.

To prevent Induration.

C H A P. IV.

Of a Furuncle, or Boil.

Description.

Furuncle is a painful Tubercle in the external Parts, about the Bigness of a Pigeon's Egg, rising from a broad Basis into a Cone, attended with Tension, Pulsation, and Inflammation.

Cause.

As to its Cause it proceeds from Blood mixed with a tough viscid Phlegm, which being too thick and gross to pass through the small Vessels, causes an Obstruction, and consequently a Tumour. The Tension is occasioned, either by the violent Distension of the Vessels, or the Grossness of the Humour. How Tumour occasions Pulsation, Inflammation and Pain, hath been sufficiently accounted for in the Chapter of Tumours in General.

Difference.

These kind of Tumours differ, either according to their Bigness, or Deepness in the Parts; or as they are more benign or malignant. A Furuncle differs from a Carbuncle, by its Tendency to Suppuration being occasioned by a Humour less malignant and subject to Corruption.

Diagnos- ticks.

As to its Diagnosticks, in the Beginning it is round, hard and inflamed, its Hardness proceeding from the Grossness of the Humour; as it increases it rises into a Cone, and sometimes a Pusle being then more inflamed and painful, especially in the State, which is about the eighth or ninth Day; if it be malignant, it is of a black dusky Colour, attended with a symptomatick Fever occasioned by the Violence of the Pain and Inflammation which disordering the Spirits, quickens their Motion, and consequently the Circulation and feverish

Indi

Indisposition; for the quicker the Blood circulates, the hotter it grows, the Reason of which I have elsewhere explained in a small Tract of the Reason of the Heat of the Blood. When the Tumour is malignant, it hath other ill Symptoms besides the Fever, issuing forth a thin corrupt Sanies, and if at all, digests with much Difficulty.

Prognosticks.

These Tumours are without Danger, and frequently digest and break without Assistance, but when they happen about the Tendons or Nerves, they are very painful, as also in the Nose or Ears.

The Method of Cure.

As to the Cure; a regular Diet and Evacuation
are necessary; but since the Humour is too gross and
acid; so as to occasion at once a total Obstruction
they refuse to yield to Repellents or Discutients,
and are only to be treated with such Applications
as help them to suppurate, such as *Rad. & Fol. Al-*
bææ, malv. Rad. Lil. uvæ passæ, ficus, &c. or such
Gumms as by their warm and penetrating Parts pro-
mote Digestion, as *Gum. Galb. Ammoniac. &c.* or
the following Compounds, *Emp. Diachyl. cum Gum.*
e Melilot. de Mucilagin. &c. If the Pain and In-
flammation be very great, the following Cataplasim
may be applyed, *Rx Mucilag. sem. Psyllii, Althææ lini*
ā ʒi. ḡ. farin. hord. ʒii. ol. Lil. axung. Gallin. ʒi. Bu-
yr. recent. ʒss. Croci ʒi. cum vitell. ovi, f. Cataplasim.
The Tumour being open, *deterge* with *mundif. ex*
Apio.

In these Tumours the Matter is so thick, that they break of themselves before it is wholly attenuated and dissolved into the Form of Pus, leaving a tough viscid Core in the Middle.

• C H A P. V.

Of Epinyctis and Terminthus.

Description.



They are painful Pustles affecting the Skin in the Arms, Hands, and Thighs.

Epinyctis is a small Pustle of a dusky Red, and of a pale livid Colour, with great Inflammation and

Pain; it first discharges a Sanies, and then a bloody Matter. *Terminthus* is of a blackish Colour; it breaks and gleans, and comes away in a Slough, in a Day or two.

The Cause.

They proceed from a very hot biting Humour mixed with Phlegm, which occasion an Obstruction in the Superficies of the Skin, where the sharp Humour corroding the nervous *Papillæ*, causes the violent Pain and Inflammation; the latter is more virulent, which occasions the whole to come away in a Slough.

The Cure.

In the Cure, the same Rules are to be observed as in a Phlegmon, in respect of Bleeding, Purgings and Diet. As for external Applications, lenient Anodynes are proper to abate the Inflammation and Pain, as *fol. cicutæ*, *Solan.* *Plantag.* &c. When broke, they are to be digested with Lenients, as *Basil. cum ol. Rosar.* and then healed with *Unguentum Tutie*, or the like.

CHAP. VI.

Of the Inflammatory Tumours of the Glands, viz. Phyma, Phygethlon, Bubo, and Parotis.



A Phyma is a Tumour with Inflammation of the conglobate Glands about the Jaws; by which it is distinguished from a *Ranula*, which is about the internal; and *Parotis*, which is of the external salival Glands; but the same Name is given to Tumours about the *Anus*, from their Similitude to glandulous Tumours.

They are caused by the Grossness of that Humour that is separated by those Glands, which stagnating and obstructing the Vessels, tends to Suppuration. When the Humour begins to suppurate, it frets and destroys the Continuity of those Blood Vessels that depose it, so that at the last it is not only formed of a Phlegmatick Serum, but acquires a Mixture of Blood; the Parts about the Tumour being pressed upon by its Extension, occasion Pain and Inflammation.

The Tumour according to the Figure of the Glands, is round and hard, attended with Tension, Pulsation and Inflammation; especially in time of suppuration, which happens sooner than in Phlegmons.

They differ from *Strumæ*, the latter being incysted, and to be eradicated by Escharoticks; whereas these, after the Discharge of the Matter, are to be cured by the common intentions of Digestion, Deterision, &c. They are neither dangerous nor difficult to cure.

In

The Cure.

In the Cure they admit not of Repellents, it being impossible to force those Humours back into the Blood Vessels, when once discharged out of them into the proper Vessels of the Glands. If they yield not to Discutients, as *Emp. de Ranis cum Mercurio*, then Suppuration, which they commonly terminate in, is to be promoted with proper Applications, as *Diachyl. cum Gummi de Melil.* &c. or if the Tumour be painful, emollient Cataplasms made of *Rad. Althæe lil. sem. lini, Psyllii, &c.* are convenient. When the Tumour is suppured, it is to be cured by the common Intentions.

Description.

P*hytheblon* is a glandulous Tumour under the Jaws, call'd *Panus*: It is round and flat, and hath a Mixture of Choler, as *Phyma* had of Phlegm, being of a yellowish red Colour.

Cure.

The same Method is to be taken in the Cure as in a *Phyma*, viz. Emollient Cataplasms, or other proper Suppuratives.

Definition.

A *Bubo* is a Tumour of the Glands in the Groin or Arm-Pit with Inflammation.

Difference.

It differs according to the Nature of the Humour, being either benign or malignant, venereal or pestilential; critical or symptomatical.

The Cause either internal,

As to the Cause, it is either internal or external. If the Tumour be benign, it is occasioned by the Grossness of the Humour separated from the Blood, which not being fine and thin enough to pass through the proper Vessels of the Glands, cause an Obstruction, and form a Tumour by too much distending the Vessels. If the Tumour be malignant, the Humour is not only too gross and thick to circulate, but contains likewise virulent corrosive Parts; which when the Humour once loses its due circulating Motion, presently separate themselves from the rest of the Mass, and not only destroy

destroy its Texture, but corrode and fret in pieces the Vessels themselves; so that, whereas in a benign Tumour, the Matter is gradually, and by Degrees, brought into the Form of Pus, by regular Digestion; in these malignant Tumours, it tends to corrupt and putrify; the virulent corrosive Parts violently and more minutely fretting and dissolving the Texture of that Humour.

But sometimes a Bubo proceeds from an external Cause, as Pain in the external Parts; so a Wound in the Hand, Arm or Finger, will occasion a Tumour in the Arm-pit; and an Ulcer or Wound in the Foot, a Tumour in the Groin; in this Case, the Humour separated by the Gland, may be thin enough to pass through the Vessels, without occasioning a Tumour by its Grossness; yet Pain occasioning a greater Flux of Humours to the Part; they are separated faster than the excretory Vessels of the Gland can discharge them, and consequently the Vessels in the Gland will be crowded and tumified; or the excretory Vessels may be pressed upon, and obstructed by the Fibres of the Parts they are to discharge themselves into, the Fibres of that Part being contracted and constricted by Pain, so that the Humour may be heaped up in the Gland for want of free Discharge, though it were separated from the arterial Blood, no faster than Nature could otherwise vent it. But these kinds of symptomatick Tumours gradually decline, when those Accidents that occasioned them are removed.

The Signs of a Bubo are, Tumour of the Glands in the Groin or Armpits, with Pain, Inflammation and Hardness; if a Fever preceded, they are critical; if they proceed from, and depend upon Accidents, those Accidents are evident. If they proceed from an internal Cause otherwise, the Symptoms shew the Nature of the antecedent Cause.

If

The Prog-
nosicks.

If a *Bubo* be benign, it is not dangerous, except for want of due Care, and opening in time, they grow fistulous. If they depend upon a Translocation of Matter, the Cure is difficult; if the Matter is crude; and the natural Heat much weakened. If a Tumour above, the Lungs; or below, the Uterus, Bladder, or *Rectum*, are affected with it, it is more dangerous.

In the Cure of a *Bubo*, the Part affected is not only to be considered, but also the Nature of the Cause. Since then the Humour that produces the Tumour is separated from the arterial Blood, and contained in the proper Vessels of the Gland, the Use of Repellents are to be avoided. Mr. *wiseman* indeed says, they ought not to be repelled; but since the Humour is separated from the arterial Blood, and contained in other Vessels, as I said before of *Phyma*, and it is impossible to force the Humour back into the Blood Vessels; therefore in all Tumours of the Glands, Repellents must be useless, and consequently to be avoided; for since the Humour will not admit of Repulsion, they must rather be prejudicial, in condensing and fixing the Humour in the Part.

Since then the Humour admits not of Repulsion, it is either to be discussed or inclined to Suppuration in order to its Discharge. But since according to the Account we have given, in the Chapter of Tumours in General, of the Nature, and Manner of Discussion, we suppose it to be performed by the Influence of the subtle *Effluvia* of Discutients, dividing and separating the Parts of the Humour, and thereby attenuating it, and rendering it fluid enough to pass freely again through its proper Vessels; If then according to this Account, we suppose the Humour discussed to return again into the Mass of Blood, there may arise a Question, why the Humour may with more Safety be returned back into

the Mass of Blood, by Discutients, than if it were forced back by Repellents; and since, if it might be improper to repel it, why it may not be as improper to discuss it, as long as it must pass again through the proper Vessels, and consequently be mixed again with the Mass of Blood. To answer this Difficulty, we may consider, that when Humours are repelled, they are forced out of the Part, by the contracting Qualities of Repellents in the same Condition and State that they were brought in, it not being in the Nature of Repellents to attenuate and rarify the Parts of that Humour; and consequently it is liable to be discharged again upon some other Part, if not fully discharged by Evacuation; but when a Humour is rarified and attenuated, by the volatile and subtle Effluvia of Discutients, and restor'd to its natural State of Fluidity, it acquires its natural Crassity, and becomes altogether homogeneous; so that when it may safely be returned into the Mass of Blood, the Humour losing its depraved and vicious Qualities. If the Tumour yield not to Discutients, then Suppuration is to be hastened and promoted by proper Applications, of which enough is ready in the preceding Chapters.

If the Tumour be critical, and the Crisis be imperfect, the Encrease of it is to be promoted by encouraging the Distension of the Vessels, and giving them Liberty to swell, by guarding the Parts from the external Pressure of the Atmosphere, by the Application of Cupping-Glasses. The Effects produced by the Application of Cupping-Glasses, is commonly said to be by Attraction. But to give a more reasonable account of their manner of working, we are to consider, that as our Bodies are contained in a Medium of Air, or Atmosphere, whose Extent from the superficies of the Earth, is a considerable Height; and consequently makes a great Pressure upon whatever lyes under it, so that a Pillar of Air of any

F

fixed

*The Tumour
to be promoted,
when.*

fixed Diameter, is able to raise Mercury in a cylindrical Tube, a considerable Height; now when our Bodies are equally on all sides compressed with the incumbent and circumambient Pressure of the Atmosphere, as statical Observations prove it to be, every Part being equally pressed, the Humours within circulating through the Vessels, have equal Power to distend them as they are impelled by the Force of Circulation; but when by the Application of a Cupping-Glass, the Pressure of the Atmosphere is kept off any Part, the Force of arterial Pulsation hath more Power to distend the Vessels in that Part where there is no external Pressure, and consequently the Vessels are inclined to tumify; besides the direct Pressure of the Atmosphere is not only taken off, but the collateral Pressure on each side, forces the Skin and Humours contained in its Vessels laterally into the Glass; the Air which might oppose its intrusion being either driven out by Fire, or exhausted by Suction. If any one should ask what makes the Glass adhere so closely to the Part? If the Part were thus internally and laterally forc'd against it, it is easily answered, that that Pressure of the Atmosphere which is kept off the Part by the Glass presses against the Glass, and so keeps it firm and fast, But those who would understand the statical Reasons more fully, may consult the Experiments made by the Honourable Mr. Boyle to prove the Effects of the Pressure of the Atmosphere. What I have said may be sufficient to shew the Manner of the Effects of Cupping-Glasses.

Other Methods proper to promote critical Tumours.

But to proceed to the promoting of critical Tumours, Cupping-Glasses are not only convenient, but also warm Medicines, which exciting Heat and inflammation, cause the Humours in the Vessels to expand themselves, which distending the Vessels give way to the Influx of more Humour, and so increase the Tumour. Medicines convenient for the

Propose are *Sterc. Columbin. sem. finap. Urtica, Fri-*
&c. Emp. Diachyl cum Gum. Pix Burgundia,
Colban. colat. per se, &c. or R^x cepam magnam, ex-
coatur & impleatur cavitas Theriaca, deinde papyro
oluta coq. sub cineribus calid. & cum ol. Scorp. f. Ca-
lasm. addendo ferment. Acer. ʒss. M. or R^x Emp.
Diachyl. cum Gum. ʒij. Picis Burgund. Ammoniac. so-
la. āa ʒss. pulv. rad. Aristoloch. Gent. āa. ʒj. cum ol.
Scorp. f. Cerot.

Suppurā-
 tives some-
 times dis-
 cuss.

These Medicines are proper to promote critical
 Tumours and their Suppuration; but it frequently
 is out, that the same Medicines which are designed
 to suppurate, happen to discuss the Tumour; and
 the contrary, those Medicines that are proposed
 to discuss, tend to Suppuration; the Reason of which
 depends upon the Condition of the Humour to be
 purged or discussed; for since both Discussants
 and Suppuratives contain volatile warm Particles,
 which transmit their subtle Effluvia; if the Hu-
 mour be not stagnated, the Humour being but
 fluidly, and not totally coagulated, so that the Cir-
 culation is not wholly obstructed, then Suppuratives,
 by their warm Parts, have the Effect of Discussants;
 but when the Humour is firmly fixed in the Part as to
 hinder Circulation altogether, then the volatile Parts
 of Discussants, not being able to attenuate that Mat-
 ter which hath wholly lost its Crasis, by a perfect Stag-
 nation, only assist the volatile Parts inherent in the
 Humour, to promote Digestion and Suppuration.
 But to proceed, if a *Bubo* be symptomatical, and
 the Body plethorick, as it generally happens, Bleed-
 ing and Purging will be requisite to carry off the
 superfluous Quantity, and correct the Qualities of the *Cacochy-*
lia, which by preventing a constant and great In-
 flux of Humours upon the Part, will abate ill Sym-
 ptoms, and give the Humour contained in the Gland
 more time to go quietly off by Discussion, or to
 suppurate with milder Symptoms.

If the Tumour proceeded from the Pain of another Part, that Pain is to be relieved by Lenient and the Humour in the Glands to be dispersed by the Help of Discutients, which may be assisted by the Help of Astringents; for though Astringents are improper, when the Humour is gross, since Repulsion is impossible; yet when the Humour is attenuated by Discutients, they, by contracting the Fibres of the Parts, may assist to press the attenuated Humour out of the proper Vessels of the Glands into their excretory Vessels. If the Humour tends to Suppuration, it is to be promoted with proper Medicines, and the Tumour after opened, to be digested, deterged, incarned, and cicatrized, accordingly.

Description. **P**arotis is a Tumour of the Glands behind, or about the Ears, attended with violent Pain and Inflammation.

Cause. The Cause of this, as of all other Tumours of the Glands, is the Grossness of the Humour separated, which being too thick to pass through the Vessels freely, cause an Obstruction, and at last a total Stagnation. When once the Humour begins to suppurate, it frets the Extremities of the Blood Vessels from whence it is separated, and then the extravasated Blood contributing to the Increase of Tumour likewise, exasperates the Pain and Inflammation. Sometimes it is occasioned by an external Cause viz. a Bruise, or Wound.

Difference. They differ according to the Nature of the Humour, it being Phlegmatick, Cholerick, or mixed with Melancholy; as also, being critical or symptomatical, proceeding from an internal Cause, or occasioned by an external Accident.

Diagnosis.

The Signs of a Parotis are, a Tumour of the Parotid Glands, attended with Pain and Inflammation. If malignant, it is attended with a Fever. Whether

be symptomatical or critical, or proceeded from external Cause, will appear from what preceded.

As to the Prognosticks, a *Parotis* without a Fever, is more benign, than when a Fever accompanies it. They are likewise less dangerous, that

flow slow Fever, than those that happen after acute. Those which are critical, are wholesome, and easily cured; but those that succeed great Evacu- ations, or Fevers, are more dangerous. Those that are symptomatical, and proceed from vicious humours, are difficult to cure, and dangerous.

In the Cure, if the Tumour be critical, it will be proper to mitigate the Pain with Lenients, and promote Suppuration. Repellents in these Tumours are to be forborn, because by constringing the Parts, they may hinder the Part from receiving the peccant humour, and from discharging it self out of the mass of Blood. If the Inflammation and Tumour be very great, Evacuation is not only to be made by incision, but also by purging Medicines; and the patient is to be kept to a moderate and convenient diet; embrocating the Part with *ol. Cham. Lumbri- r. lini*, &c. If the Tumour rise not kindly, it may be promoted by Cupping-Glasses. If the Matter be crude and viscid, and Induration be suspected, long Emollients and Discutients are to be applied; but if it tend to Suppuration, the following may be made use of. *R rad. lil. capar. sub cineribus coct. .℥iv. Muc. sem. lini. ʒj. ℞. farin. Trit. ʒij. Unguent. asil. axung. percin. āā. ʒj. ℞. vitel. ovor. N^o. ij. Cro- ʒj. f. Cataplasma.* The Matter digested, and the Tumour opened, digest, deterge, &c. as in other humours of the like kind.

The Cure.

C H A P. VII.

Of a Carbuncle.

Description.

Carbuncle is a round hard Tumour much like a Boil, of a dark red Colour, attended with the highest Degree of Pain and Inflammation, with several *Ulcuscula* round it, corrupting the Part it affects, so that the whole

Piece comes away, if the Patient recovers.

The Cause.

It is occasioned by a Humour so much depraved as to acquire the Virulency of a Caustick, which once destroys both the Texture of the Humour laid down in the Part it affects, and even the Parts themselves, corrupting the whole, and burning them like a Caustick. It is commonly a Symptom of pestilential Diseases, but happens sometimes, the Humours being corrupted to that Degree of Virulency, where there is no Appearance of the Plague; so that in respect of the antecedent Cause it is either pestilential or not pestilential.

The Diagnosticks.

The Symptoms or Diagnosticks of a Carbuncle are, Nausea, Vomiting, Dejection of Appetite, Tremor, Palpitation of the Heart, frequent Sweating, Delirium, &c. If the Tumour be pestilential, the Symptoms are more violent than otherwise, besides, the Disease being Epidemical, shews the infectious ill Disposition of the Air.

The Prognosticks.

The larger the Carbuncle, the more dangerous and likewise the more it degenerates from Red to Black, the worse. Those that are in the Emundaries, or near some noble Part, are more dangerous than those which happen in the musculous Flesh, but the greatest Danger is when the Humour is turned back into the Blood again.

In the Cure of a Carbuncle, two things are to be consider'd, First, the Nature of the antecedent Cause, Secondly, the Nature of the Conjunct.

As to the antecedent Cause, it is evident from the Nature of the Symptoms, that the Blood must be very much depraved in its Crasis and full of *Cachexymia*; so that when the Blood is by any Accident put into Disorder, and begins to ferment more than ordinary, the very hot and corrosive Parts make the fermentation so acute and violent, that they at once destroy the Texture of the whole Mass, separating the thick and gross Fæces of the whole, from the thinner and more corrosive fermenting Parts, so that the Nature is put upon an immediate Crisis, otherwise the whole Mass of Humours being thus separated, and the Mixture of the different Parts dissolved, there would follow a universal *Coagulum* of the whole, were not the grosser and virulent Parts discharged upon some particular Part, which form the Tumour called Carbuncle.

The Parts of the whole Mass of Humours being thus disunited, and the natural Texture of the whole broke, there not only ensues a want of Appetite, the Ferment of the Stomach being also depraved; but the Crasis of the perverted Humours cause an irregular Fermentation and Tremor all over the Body: The Blood being thus disordered, affords but a very ill disposed *Pabulum* to support the animal Spirits, which being thus likewise depraved, and also affected with the irregular Ferment of the Blood, occasion a *Deliquium*, or swooning. Their Motion likewise through the Nerves being irregular and weak, the Contraction of the Fibres of the Heart, become likewise irregular and faint, which causes a Palpitation; and the Stomach not only affected by the Consent of the Nerves, but also by the depraved Humour discharged into it, becomes subject to *Nausea* and Vomiting,

the great Disorder and Confusion of the Spirits, and the Inflammation of the Blood in the cortical Part of the Brain producing also a *Delirium*.

Evacuation by Bleeding. From what hath been said, it appearing how great a Disorder the Virulency of the Humour hath put Nature into; it is absolutely necessary, to make Evacuation and Discharge proportionable to the Urgency of the Symptoms; and first by Venesection which is to be taken in such Quantities as the Strength of Nature will bear, even to Fainting; by which Discharge the Vessels being sufficiently emptied, there is convenient Room for other Liquors to attenuate and temperate the violent Heat, and to dull the Edges of the Particles of that virulent acrimonious Humour. The Virulency of the Humour is not only to be checked by Venesection, but lenient Purging, as *Cassia*, *Manna*, &c. and the Body to be kept open by Clysters; and these as well as Bleeding are to be made use of in the Beginning, lest by the Abundance of virulent Humours, the Crassity of the Humours should be wholly destroyed.

*Lenient
Purging
necessary.*

In pestilential Cases, where the infectious Qualities of the Air concur with the predisposed Humours, Bleeding is not to be altogether so plentiful as when only the Depravity of the Humours causes the Disease, lest the Weakness of the Spirits occasion them to give way more easily to the Malignancy of the Distemper.

A Caution. But besides Bleeding, Purging and Clysters, it will be requisite to make use of Alexipharmicks to resist the ill Effects of this malignant Humour; as *Theriaca Methridat. Elect. de Ovo, Confect. de Hyacinth. de Alkermes*, &c. by which the Spirits will be supported, and the Mixture of the Blood recovered, and its Texture preserved, such warm Medicines keeping the Blood warm and fluid, and preventing the ill disposed Humour from coagulating it. To moderate the extraordinary violent Heat, the following

Following Medicines may be made use of. *R. Conf. Borag. Buglos. Lujula* āā *ʒi. spec. de Hyacinth. ʒi. Cort. Citri. Cond. N. Mosch. āā ʒiij. cum q. s. Syr. è succo Citri, f. Elect.* taking a small Quantity every four Hours, drinking some of the following Julep after it. *R. Aq. Scord. Dracont. citri āā ʒiij. Theriacal. ʒiij. spec. de Hyacinth. ʒi. Syr. & Citri q. s. Julep.*

In respect of the Tumour, and its conjunct Cause, ^{What is to be done in respect of the conjunct Cause.} we are to consider, that the Distemper, being very acute, and the Crisis speedy, the grosser Parts of the Humours separated from the rest, are presently thrown into some Part, where they cause an immediate Obstruction and Tumour; and since they cannot be thrown into any Part, without this virulent Humour with which they are impregnated, they presently putrify and corrupt the Part. But if the Tumour increase not fast enough, to free the Blood as much as possible of this depraved Humour, it may be encouraged by the following Cataplasm. *R. summit. Rut. M. ij. ferment acr. ʒiij. sic. veter. No. ʒiij. piperis alb. ʒij. sal. Commun. ʒiij. M.* or the Cataplasm mentioned in the Chapter of a *Bubo*, of *Theriaca coct. in cep. excavata*; or it may be promoted by the Use of Cupping-Glasses. If Nature be very strong, and the Tumour rise with violent Heat and Pain, it may be tempered with cooling Cataplasms made of *fol. Plantag. pan. tritici* decocted in Wine, which hath been mentioned elsewhere.

If the above mentioned Method prove ineffectual; it is reasonable to vent the Humour by deep Scarifications, washing the Scarifications with *Theriaca* and *mel. Egypt. in acet. vini*, then fill the Scarifications with a convenient Escharotick as, *trosc. Andronis*, or *Polydia*, and apply a Cataplasm over all, of *farin. Orob. &c.* or the malignant Humour may be consumed by actual Caution, separating the Eschar by convenient Digestives.

If

If the Tumour disappear, and the Humour mix again with the Mass of Blood, it soon corrupts the whole Mass, and proves fatal.

C H A P. VIII.

Of a Paronychia.

Definition.



Paronychia is a Tumour about the Nails or Ends of the Fingers, commonly call'd a Whitlow.

Differences.

It differs, as it is benign or malignant, the former lying under the Skin, and quickly coming to Suppuration; or as malignant, when it lyes deep in the Flesh, and is difficult of Digestion. It differs also according to the Temper of the Humour that occasions it.

The Cause.

As to the Cause, the benign proceed from a Salty or cholerick Serum collected under the Skin, being too thick to perspire through the Pores of the Cuticula, which is thick in the Fingers. If it be malignant, it commonly proceeds from a gross Phlegm which is very slow and hard to digest, lying deep and frequently collected betwixt the Bone and Periosteum.

Diagnosis.

The Signs of a *Paronychia* are great Pain and Inflammation, with Pulsation and Tension; and when it is malignant, the Pain is greater, attended with a Fever and Fainting.

As to the Prognosticks, the benign are easily cured, the greatest Danger being the Loss of a Nail; but the malignant, if not timely remedy'd, corrupts the Periosteum, and the Bone, and by Degrees ex-

tend their Symptoms to the next Joint, and the whole Hand.

In the Cure, Lenients, and emollient Suppuratives are convenient, as *fol. Malv. Hyosciam. Rad. Althææ, sem. psylli, lini, fenugræc. &c.* but Care must be taken to discharge the Matter in due time, by Incision, lest by waiting for Suppuration, the Humour corrupt the Periosteum; and foul the Bone. When the Incision is made, the following Cataplasm may be applied. *R sem. Lini fenugræc. āā. ʒss. muc. sem. Psyllii ʒj. vitell. ovi N°. i. Croc. ʒj. ping. Gallin. aut butyr. rec. q. s. f. Cataplasma.* Or it may be dressed with *Basil.* If it be full of tough Phlegm, or spongy Flesh, it may be deterged with *præcip. rubr.* laying a Pledgit over it, spread with *Basil.* and *Emp. Diachalciteos* over all, with proper Bandage, to keep the Part in its due Shape.

CHAP. IX.

Of a Pterygeon.

Pterygeon is an Excrecence of Flesh about the Nails of the Fingers or Toes. It often happens after a Whitlow; or is caused by a Bruise under or about the Nails; sometimes it rises from the Root of the Nail, some Pustle there having preceded: When the Flesh under a Nail is bruised, it causes Pain and Inflammation, which is succeeded by an Eruption of Matter, and afterwards an Excrecence of spongy Flesh.

They

Differences. They differ as the Cause varies, and according to the Part affected, rising either from the Sides or the Roots of the Nail, with Erosion, or under the Nail.

Diagnosis. The Signs are Evident, by the Ulceration and Excrecence; and if the Bone be putrified, it is evident by the Smell.

Prognosis. When they rise from under the Nail, they are easily cured; but when they rise from the Root of the Nail, they are more difficult, and in old People are apt to gangrene.

The Cure. In the Cure of a simple Ulceration with Excrecence, the Nail is first to be cut away, that Medicines may be applied to consume the loose Flesh, and cicatrize it. To which Purpose, dry Lint, or Lint dipt in *aq. calcis*, and dried, or *Pulv. granator. Terra sigillata*, *Lapis Tutia*, or *precip. rubr.* But moist and greasy things are to be avoided, since they rot the Nails. If the Excrecence rise from the Root of the Nails, more powerful Dryers are to be made use of; as *Æs ustum*, *Squama Ceris*, *Calx viva*, *Troch. Polydæ*, *Andronis. Musa*. The Vitriol Stone, or Allum, will serve to cicatrize.



C H A P. X.

Of Pernio.



Pernio is a thick red Swelling in *Description*
the Hands and Feet, with itching
Pain. In the Hands they are cal-
led Chilblanes, in the Feet, Kibes.

The Cause is external Cold, which *Cause*
stopping Transpiration, and penetra-
ing deeper, condenses the Humours in the Skin,
which occasions painful Swellings; and the Hu-
mour, for want of Transpiration, stopp'd betwixt
the Cutis and Cuticula, separates them, and cau-
seth Blisters, and by Degrees growing hot and sharp,
corrode the Skin, and sometimes the Parts under it.
As for the internal Cause, the Humour is naturally
too thick, and the Parts tender, which disposes
them to be thus affected with external Cold.

They are known, by their thick red Colour, at- *Diagno-*
tended with several small Wheals, which itch much, *sticks*.
and when rubbed, ulcerate, and chop the Skin, issu-
ing out a thin Humour.

Chilblanes are not dangerous, though difficult *The Cure*
to cure in cold Weather; but Kibes, often, if ne-
glected, ulcerate the Parts beneath, and sometimes
the Flesh to the Bone, and are apt to gangrene.

In order to the Cure, the Parts are to be kept *Progn-*
dry and warm, to promote Transpiration; Socks *sticks*.
dipp'd in Brandy are convenient, also Cloaths dipp'd
in Salt Water are sometimes beneficial; *Sp. Salis*
rect. hath been often found effectual. Fomentations
of fresh Water, or Broths, promote Transpiration,
specially those made with warm Herbs; as Worm-
wood, Marjoram, Thyme, Hyssop, Rue, Rosma-
ry, &c. *Unguent. Rosat. cum Terebinth.* in a roasted
Turnip

Turnip is good, or R *Manna*, *Thuris*, āa. ʒj. *Cort. Pini*, ʒij. *axung. Porcin. & Anser.* āa ʒiij. *cera q.* f. *Cerotum*. If the Ulceration be large, it is cured as an Ulcer with Fluxion.

CHAP. XI.

Of a Varix.

Description.



Varix is a Dilatation of a Vein, which commonly happens in the Thighs and Legs; in the Testicles and hemorrhoidal Veins; and in Women the Belly is frequently affected.

Cause.

The Fault of the Humours.

As for the Causes, the Fault is either in the Humours, or the Vessels that contain them or both. If the Humours are the Cause, when by their Grossness they are subject to coagulate, and have not free Passage through the Vessels; when the Blood is coagulated and stopp'd in the Vessels, it presently distends them, and the clotted Blood thus settled in the Part gradually encreases by the Adhesion of fresh Particles of Blood, which being denyed a free Passage likewise through the Vessels, are by that Means disposed to coagulate, and adhering to the first coagulated Mass add to its Bulk: As the Matter coagulated increaseth in Bulk, it also enlargeth its Sinus, the Vessel still distending and yielding to the Pressure of the Humours forced on by the Circulation of the Blood, which constantly endeavours to make its way betwixt the Coagulum and the sides of the distended Vessels.

The

The Vessels are the Occasion of it, when their Pores are relaxed and weaken'd, so that the Vessel having lost its natural Constriction, easily gives way, and is distended by the Pressure of the Humours, which is the greater when the Veins are weaken'd, which ought to support the Weight of the ascending Blood, in which case the distended Vessel forms a varicose Sinus, which continues full of Blood, tho' at first neither coagulated, nor perhaps disposed to Coagulation, but losing the free Motion it hath in other Parts, at last the Parts of that Blood, for want of their usual Agitation, adhere to one another, and form a *Coagulum*; and this happens commonly in cutaneous Parts, where the Vessels are not supported by the contiguous and adjacent Vessels. But sometimes the Vessels are not only in Fault, but the Grossness of the Humours likewise concur.

When a *Varix* is occasioned by the Grossness of the Humours chiefly, it happens either by preternatural Accidents, or natural Causes. By preternatural Accidents, when the Blood becomes too gross by the Fault of Indigestion and *Crapula*; or when the Blood is chilled and coagulated by external Cold. By natural Causes, when by a Separation of Milk from the Breast, or nutritious Juice for the *fœtus* in the Uterus; the Blood becomes thick, the Vehicle it is diluted with being separated, in which Cases the Vessels are observed to be seven times bigger than naturally.

When the Tumour happens through the Weakness of the Vessels chiefly, there are several concurring Causes, according to the Difference of which, it appears, that the Weakness of the Part is more or less concerned. As if a *Varix* happen, only by the bare Weight and Pressure of the Blood, and the Force of Circulation, the Part must be very weak to give way to the Humour. But when a Vessel is press'd upon either by Tumour, or any contiguous

The Fault of the Vessels.

How Accidents or natural Causes concur to the Production of a Varix.

exter-

external Body, as in Riding, the Veins on the side of the Thigh; or in Women with Child, the iliac Branches; or when a Vessel happens to be streightened by any particular Posture, there is consequently a greater Weight upon the Part that gives way to the Tumour, the Reflux of the Blood being stopp'd in some Measure, and Circulation more obstructed.

The Diagnosis.

The Signs of these Tumours are known by the Turgency of the Veins, being crooked, and of a azure Colour, which are more apparent, the more superficial the Veins are. The Signs of a *Hernia varicosa*, are knotted Tumours in the Veins leading to the Testicles.

The Prognosis.

Varices in themselves are without Danger; but if they be large, and the coagulated Blood should happen to swim into the Blood, by making Obstruction in other Parts, it may occasion ill Symptoms as Madness, an Apoplexy, Pleurisy, Pain in the Kidneys, &c. These kind of Tumours are all hard to cure.

The Cure.

A *Varix* being healthful, ought not to be cured unless it be large and painful, and ulcerated and bleed; but when the Cure is to be endeavoured, Purging and Bleeding are to be repeated; and likewise such Medicines are to be made use of, which may cleanse the Blood, and strengthen the Parts, externally applying astringent drying Medicines to contract the Parts, and strengthen their Tone, with a convenient Bandage, which may gently compress the Parts, and squeeze the Blood into the Vessel gradually again. But if the Blood be coagulated and will not yield to such Measures, then Incision is to be made, and the Vessel laid bare, and a Ligature being pass'd above, and another below the Tumour, the Vein is to be opened, and the coagulated Blood cast out, digesting and healing the Part, as in an *Aneurisma*. If a *Varix* happen in the

Leg or Thigh, it may be help'd with a lac'd Stocking or Trowze, placing something that presses hard betwixt the Skin and It, upon the Tumour, as Vellum, or Lead beaten thin. If they happen in the Belly, a Bracer may be convenient. If the Tumour be large, Bleeding and Purging will be requisite, applying *Emplast. Cæsaris*, *Ung. Tumiach.* or such like astringent Topicks to the Part. In a *Hæmorrhoides varicosa*, a Bag-Truss with the aforesaid Applications will be proper. If the Tumour proceed from Wind, it is to be treated as a flatulent Tumour. How a *Varix* is to be treated when ulcerated, will be shewn in the second Part of Ulcers.

C H A P. XII.

Of an Ecchymosis.



AN *Ecchymosis* is an Extravasation of *Descriptio* Blood in, or under the Skin, or any other Part, the Skin remaining whole.

As to the Cause, it happens commonly by a Blow or Bruise, or Fall, which some small Vessel is broke, and the Blood extravasated, or it may be occasioned by a Prick with a Lancet or any other thing, the Skin healing and closing up again, whilst the Vessel under it remains open.

The Signs of it are a black and blue Colour in the Skin with or without Tumour at the first; when occasion'd by a Blow or otherwise, will be shewn by the preceding Accidents.

If the Contusion be superficial; the Danger is small; but if under the Skin, still greater; yet so much the less; whilst the Blood is thin and fluid;

G

but

but if the Blood coagulate and be separated from its Serum, it is difficult to dissolve, and hard to digest. If the Bruise be large, and the Skin, instead of black, blue, or green; be red, hard and painful, it is dangerous, and if neglected, gangrenes.

The Cure.

In the Cure, if the Effusion be small and superficial, a Stupe dipped in Oxycrate first applied, the Humour may afterwards be discussed by being fomented with Spirit of Wine. But if the Extravasation be great, the Vessels are to be first emptied by Bleeding, embrocating the Part afterwards with

*Astringents
requisite,
and*

ol. Rosar. myrt. cum aceto & alb. ovi, which is often to be renewed. If stronger Astringents are to be made use of, add *pulv. bol. Armen. sang. Dracon. flor. rosar. rubr. balust. myrt. gallar. &c.* Thus by the Use of Repellents, the Parts are contracted, and less apt to receive the extravasating Humours. But Repellents will have a better Effect if assisted with convenient Bandage; for by Bandage the Parts are compressed and kept so close, that no extravasating Humour can be admitted betwixt the Vessels.

Bandage.

*Discutients
when to be
used.*

When the Fluxion is restrained, Discutients are to be mixed with Repellents, as *R. Unguent. Arre gon. ℥iij. ol. Eumbric. Cham. rut. āā ℥j. Terebinth. ℥j. pulv. sem. fenugræc. 5vj. flor. ros. rubr. badust, 3ij. Croci 3ij. ceræ q. s. f. Cerot. or R. rad. bryon sigil. Solomonis āā 3ij. flor. Cham. sambuc. āā P. i. farin bord. fabar. sem. fenugræc. āā 3j. summit. Absinth. M. i. sem. Camini 3ij. coq. in vin. & f. Cataplasma addendo in fine Oxym. scillit. q. s. and foment the Part with Decoct. Absinth. in Lixivio commun. but Care must be taken, that neither the Cataplasma nor Fomentation be applyed too hot, lest by heating the Part, they swell the sanguiferous Vessels, and renew the Extravasation.*

If the Extravasation will not be check'd by Repellents and Discutients, the Blood is to be let out

by Incision, lest it corrupt the Parts under it, or the Bone; but if there be no such Danger, but the Tumour inflame, and tend to Suppuration, it is to be promoted, and then discharged by Incision, and the Part digested, deterged, &c. If the Tumour tend to Mortification, it is to be treated accordingly; but Care must be taken to leave off such Measures, when the Part hath acquired its natural Heat, lest too much Heat renew the Fluxion, and a Gangrene ensue.

If the Body be bruised by a Fall, or otherwise, after Bleeding the Body is to be kept warm, and ʒj. of *Sperm. Ceti*, or *Irish Slate* may be given upon it, or *R̄ Rhab tost. terræ sigillat. mumie* āā p. eq. of which ʒj. may be given in a convenient Vehicle, after which the bruised Humours may be breathed out by discutient Ointments or Cerots.

C H A P. XIII.

Of an Aneurisma.

N Aneurisma is a soft white Tumour, *Description* yielding to Pressure, but rising again after Pressure, attended with Pulsation from the Artery.

The Cause of it is the Rupture of *The Causes* an Artery, by which Blood is extravasated betwixt the Interstices of the Muscles, or betwixt the Muscles and the Skin. This Rupture is made either by internal or external Causes. The internal Causes are first the violent Force of the Blood in the Arteries, which being driven by adventitious and accidental Force above that of Nature, into some weak Vessel, produces a Rupture, it being by that

Force drove in faster than it can be discharged, as in violent Contractions of the *Thorax* in Coughing, or by the violent Contraction of several Muscles in forceable Motion, for the natural Force of Circulation would never burst an Artery, if there were not some additional Impulse.

But sometimes it happens, that by the sharp and hot Parts of the Blood, the Vessels may be so corroded and weakened, as easily to give way to a less violent Force, as in Bleeding at the Nose, which often happens even by hot fermenting Blood expanding and distending the Vessels. And if the Blood may thus easily break the capillary Arteries, much more may it be done by violent Coughing, Vomiting, or other violent Strains. How these may encrease the Impetuosity of the Blood, may appear from what I have elsewhere said of the use of the Lungs, in a small Book of the Reason of the Heat of the Blood. But whether it be occasioned by the Force of the Blood, or Sharpness of Blood, and Weakness of Vessels, or all together, yet there is always an evident Pulsation in the Tumour, except it lye very deep, partly occasioned by the Motion of the beating Artery, and partly by the additional Blood forc'd in, and added to the Tumour by every Pulsation.

The external Causes that may produce an Aneurism, are, whatever may divide the Coats of an Artery to cause an Extravasation; whether Puncture, Incision, a Bruise or Fall, or the corroding Qualities of Humours.

Differences. An Aneurism differs either as it is large, extending it self all over a Part, or only to Part of it; or as it is superficial or deep; or more or less protuberant, the Orifice of the Artery being bigger or less, so that the Blood is with more Force, and irregularly, or more leisurely extravasated. In the first, the Shape of the Tumour

Tumour is more irregular, in the latter, it answers the Shape of the Part.

When the Tumour is small and superficial, it may be easily known by the evident Pulsation in every Part of it. If it be large, and rise suddenly, and is white and soft from its first Appearance, though no evident Pulsation can be perceived, yet we may conclude it to be an Aneurism. Another Sign of an Aneurism is the frequent Increase and Decrease of it, the Blood being as often received into the Artery again, and forced out again as often. If it happen upon the Puncture of a Lancet, it appears by the spurting out of the Blood, or a sudden Tumour with Pulsation. If the Skin be very much distended by the Largeness of the Tumour, it acquires a Redness with Inflammation; and if there be a Putrefaction of the Blood, it is commonly attended with a Fever and Fainting, the Spirits being put into a violent Agitation, and the Blood over fermented and heated with the violent Pain.

All Aneurisma's are difficult to cure; if large and deep in the Muscles, they are incurable; and if undividedly opened, fatal; it being impossible to apply Medicines to the Part when so deep. But where Bandage and Medicines may be applied, they may be cured, or at least relieved to the Ease of the Patient.

In the Cure of an Aneurisma we are to endeavour to resist the Increase of it, and agglutinate the Vessels by proper Medicines and Bandage; Medicines proper for that purpose are *Bol. Armen. Sang. Dracon. Thus aloë, farin. volat Gypsum*, and the Juices *Plantag. burs. Pastor. millefol. vinc. pervinc. nilosel. Lamii, acet. & alb. ovor.* but where Bandage cannot be applied, *Emp. Cesar.* or the like, may be made use of. If near the *Trachea*, Compress may be made with a Plate of Lead, or beaten Gold. If the Use of Astringents and Bandage are ineffectual,

ctual, Escharoticks or actual Cautery may be applied to destroy the extravasated Blood; but if the Artery lye where it may be come at, the best will be to make Deligation and divide it.

A Caution. These Tumours are not to be opened till they break of themselves, and when they do, they are speedily to be restrained by proper Astringents and Bandage, the Life of the Patient otherwise being in Danger, by the great Efflux of Humours.

*The Cure of
an Aneu-
rism from
Puncture.*

If an Aneurism happen by Puncture in Letting Blood, permit it to bleed freely, which may empty the Vessels without the Trouble of opening a Vein in the other Arm; for when the Vessels are emptied sufficiently, the Pressure and Force of Humours, upon the bleeding Vessel, is less violent; and consequently the Vessel more easily agglutinated. A sufficient Quantity of Blood being discharged, the astringent Powders are to be applied to the Part, with restrictive Plasters over them, and Cloaths wrung out of Oxycrate to the *Axilla* and upper Part of the Arm, then with a double-headed Rowler, take two or three Turns about the Part affected, and rowl up to the Shoulder, returning again to the Part, fastening the Rowler on the Outside; then with another Rowler expulsive Bandage is to be made, from the Hand upwards, placing the Arm in a convenient Posture; and prescribing Juleps, Emulsions and Opiates to allay the Inflammation and Heat of the Blood. If the Arm be much swelled, a laced Stocking and Glove may be serviceable; but if this Method prove ineffectual, Deligation is necessary, which is to be done as followeth.

*The Method
of making
Deligation.*

First a Ligature is to be made three or four Fingers breadth above the Tumour, keeping a Gripe also upon the Part, then the Arm being held below, Incision is to be made the Length of the Tumour, and the clotted Blood to be cast out, cleansing the Part with a Sponge, then with a Needle, a Ligature

ture is to be passed under the Vessel above, and another below the Puncture; when the Ligature is tyed, it is to be cut off; but the better to discover the Vessel, in order to pass the Ligature, it may be convenient to slack the Gripe, upon which the Blood spurting out, will discover the Vessel. The Ligatures being cut away, and the Vessel divided, the Part may be dress'd up with a common Digestive of *Terebinth.* dipp'd in *pulv. Galeni*, and a Plaster of *Diachalcit.* malaxed with *ol. Ros.* over it, with convenient Bandage, giving the Patient Anodynes internally, to keep the Blood quiet, and to abate its irregular Fermentation. The Part dress'd up thus is not to be opened till the third Day, lest the Parts should bleed again; when it is to be dress'd with Digestives, which are to be continued as long as it is convenient; and then the Wound is to be deterged, incarned and cicatrized.

C H A P. XIV.

Of an Herpes.



Erpes is so called, *a serpendo*, from its creeping and spreading Quality.

There are three Sorts of it, which take their Difference from the Temper of the Humour that occasions them. The first is *Herpes simplex*,

proceeding from a cholerick Humour. The second is *Herpes miliaris*, occasioned by a sharp saline Humour. The third is *Herpes exedens*. In this the cholerick Humour acquires so great an Acrimony as to become corrosive.

Three sorts of Herpes's

*A simple
Herpes de-
scribed.*

A simple *Herpes* is a Pustle, with a sharp Head of a yellowish inflamed Colour; Matter soon appears in the top of it, though the basis is inflamed; but when the Matter is discharged they presently heal, the Inflammation going off. They often appear single in the Face and other Parts; and frequently spread over the Back, Sides, and Breast, attended with an *Erysipelas* and a Fever. They are caused by the Grossness of that Serum which ought to go off by Transpiration; which making an Obstruction in the Glands of the Cutis, and being strongly impregnated with Choler, produces this Tumour.

*Herpes mi-
liaris de-
scribed.*

Herpes miliaris, is a Cluster of small Pustules, almost of the Colour of the Skin; they itch very much, and when rubbed issue out a thin waterish Humour; and then a Scab grows upon the Head of them, of the Form of a Millet-seed, whence they derive their Name. As they heal in one Place they break out in another. In these Tumours, the Humours which ought to transpire being both too thick to pass through the excretory Vessels, and too sharp and saline, occasion these small Tumours in the Glands of the Skin.

*Herpes e-
xedens de-
scribed.*

Herpes exedens, is a small Tubercle in the Skin, with an Ulcer like a Pin-hole upon the top of it, commonly without Inflammation or Pain; if it be pricked, it is soon cover'd with a dry Scurf, and in a little time, by its corrosive Qualities, corrodes and consumes the Skin, indurating the Flesh under it, and the Parts about; the Humour that produceth it being too much impregnated with sharp corrosive Salts.

*Prognos-
ticks.*

As to the Prognosticks, a simple *Herpes* is neither dangerous nor hard to cure; when it spreads over a Part it occasions a feverish Indisposition, which goes off when the Pustles suppurate. It is often attended with an *Erysipelas*. *Herpes miliaris*

is difficult to cure if it affect the Face, Nose or Ears; when neglected it eats deep into the Flesh, and is hard to cure. *Herpes exedens* is very hard to cure, and if neglected ends in a *Phagedæna*, or a *Cancer*.

The Cure is to be performed partly by Internals, and partly Externals.

In a *Herpes Simplex*, the like Method is to be used internally, as in an *Erysipelas*; as Evacuation by bleeding, and lenient Purges, and such Measures as may temper cholerick Humours. In a *Herpes miliaris*, bleeding and purging are convenient, and Alteratives of the like nature with those in the Itch. As for *Herpes exedens*, what Method is to be observed in the Cure of it, will be proposed in the second part of Ulcers.

The Cure of a simple Herpes.

External Applications in the Cure of an *Herpes*, are much of the same nature with those in an *Erysipelas*, but more drying and cooling, there being no Danger in this Case of any ill Consequences of preventing the Discharge of the Matter out of the Blood, or of repelling it. Medicines commonly used are, *Polyg. Equisetum, Millefol. plantag. solanum, Lithargyr. Auri, Argenti, Ceruss, Tutia. Bol. Arm. ol. Ros. Myrt.* out of which with a convenient Quantity of Wax, Cerots or Unguents may be made as Occasion requires, as, *R̄ suc. plantag. summit vitis polygan, āa. ℥iij. Tut. præp. cerussæ āa. ℥ss. Litharg. auri ℥j. Antimon. ℥iij. Cera. q. s. & cum ol. ros. & myrt. f. Cerot. or, Unguent. alb. camphorat. Diapompholyg. Tutia, desiccativ. rubr. Nutritum cum populeon,* may be used.

In a *Herpes miliaris* stronger Medicines are to be made use of. *R̄ pingued. porcin. vitulin. Vaccin. āa. ℥ss. fol. chelidon. sedi mingris, plantag. Ling. Canis āa. M. j. Calcis ter extinct. ℥ss. Calcanth. pulv. ℥j. Bor. æris ℥iv. omnia conquassentur, & simul dimittentur marcescere per hebdomadam: postmodum addantur*

The Cure of a Herpes miliaris.

tur

tur aq. plantag. suc. granator. āa. ℥iv. pulv. cort.
 Gran. ℥℔. Terebinth. clarissim. ℥iij. iterum bulliant,
 & cum q. s. Cerae. f. Unguent. or R Axung. por-
 cin. ol. Laurin. āa. ℥℔. Unguent. Rosat. ℥iij. Auri-
 pigment ℥ij. Merc. sublimat. ℥℔. Argent. viv. Salin.
 jejuni extinct. ℥℔. Litharg. Auri, Argent. & Ceruss.
 āa. ℥iij. M. in Mortar. Marmoreo pro Usu.

Why A-
 stringents
 are proper
 in a Herpes.

As to the Reason why these Astringent drying Medicines are proper in a *Herpes*; since it proceeds from an Obstruction of the Glands of the Skin, several Difficulties may offer; for since the Humour fixed in the Glands of the Skin, is separated from the Mass of Blood, and contained in the proper Vessels of those Glands, it is impossible they should act as Repellents, there being no Regress for the Humour into the sanguiferous Vessels, it being contrary to the Course of Nature to suppose, that a Humour can have a Reflux, where by the Circulation of the Blood, a constant Pressure of subsequent Matter endeavouring to pass into the Part, would oppose that retrograde Motion, as well as the natural Structure of the Vessels. It then both the tendency of Humours in Circulation, and the Structure of the Parts, shew the Impossibility of these Medicines, by acting as Repellents, to move the Matter of the Tumour out of the cutaneous Glands; and if, as Astringents virtually or potentially, they obstruct the Pores of the Skin, and consequently hinder Transpiration, it may be a Question how they contribute to the Cure, since there is no other way for that Humour to be discharged, except externally. Another Difficulty which offers in respect of the use of Astringents, is the Tendency of a *Herpes*, especially a simple one, which as it terminates in Suppuration, Astringents can scarce promote their Maturation; and since in a *Herpes miliaris*, the Matter discharges it self by a thin Gleet, and Astringents tend to

the stopping of that Discharge, the reason why Astringents contribute to the Cure of them, is farther to be enquired into.

In order therefore to the assigning of a proper Reason for the Use of these sort of Medicines, we may consider, that though in a *Herpes simplex* Astringents cannot contribute to the Cure by promoting Maturation, yet since by their constrictive Power they contract the Vessels, and corrugate the Skin, they may by that means prevent the farther Influx of Humours, and consequently, that already contained is the sooner digested and discharged.

In a *Herpes miliaris* Astringent drying Medicines, (which likewise cool by Accident, as they prevent the Influx of hot Humours,) not only by contracting and constringing the Skin, take away and stop the Supply of that sharp saline Humour which occasions the Tumours, but also absorb and dry up that which issues out, and is already contained; so that for want of a constant and continued Moisture the ulcer'd Pustle becomes dry and separates from the sound Skin, by the Interposition of transpiring Moisture, which being natural and homogeneous, passes through the Pores of the Skin freely and without Interruption; so that Astringent drying Medicines contribute accidentally and mediately, and not immediately by their evident Qualities to the Cure of a *Herpes*; only in a *simple Herpes*, where it is complicated with an *Erysipelas*, they by their evident Qualities repel the Humours which tumify the sanguiferous Vessels, and inflame the Skin.

But to proceed, in tender Bodies, *Merc. Dulc.* or *precip.* mixed with *Unguent Rosat.* may prove serviceable; but in strong Bodies, the part may beomented with a *Lixivium*, or an Ablution of *Turkish Spirit of Vitriol* and the caustick Stone are likewise serviceable. In a *Herpes miliaris* these Medicines are serviceable, either as they dry up the super-

superfluous Moisture, and so help to separate the dryed Parts, or as they by their mercurial Qualities alter and discuss the Humour that might supply the Cause of them.

CHAP. XV.

Of an Oedema.



Having shewed how hot Tumours are occasioned by the depraved Crasis of inflammatory Humours, and how Medicines, whether internal or external, exert their Qualities in relieving them, I shall now proceed to examin the nature of cold Tumours, and how Medicines may contribute to the removing of them; and first of an *Oedema*.

Description. An *Oedema* is a soft cold Tumour, without change of Colour, Pulsation, Heat, or Pain, except when the part is very much distended; the Humour that occasions it being heaped up by Congestion.

The Causes antecedent. The Cause is either antecedent or conjunct, as in other Tumours. The antecedent Cause is Twofold, viz. either the ill Crasis and Indisposition of the Blood and Humours, or the Weakness of the Parts. The ill Disposition of the Humours is occasioned several ways. As First, By the Fault of Digestion, for want of due Digestion, Crudities being heaped up in the Blood. Secondly, By the Grossness and Intemperature of the Air, Crudities may be heaped up in the Blood, the Humours being either chilled in the Vessels by external Cold, or not sufficiently impregnated with nitrous Particles in the Lungs, or its Ferment checked and overpowered with too great

great a Quantity, so that Errors happening in the second Concoction accumulate indigested Humours, though the Chyle was sufficiently digested in the Stomach and Guts. Thirdly, Crudities may be heaped up in the Blood, for want of the usual and natural Discharges made by accustomed Exercise. When the antecedent Cause is heaped up any of these ways, the Humour is commonly gross and phlegmatick, and too thick to pass freely through the Vessels; yet according to the different Constitutions of the Persons affected, the indigested Humour will be variously depraved, being either Cholerick, or impregnated with sharp and acrimonious Salts. But the Indisposition of the Humours in an *Oedema* are not only occasioned by the Accidents above-mentioned; but, Fourthly, Also by the Weakness of the Parts, when by some Fault in the Structure and Formation of the *Viscera*, they are not able due to perform their respective Offices, as when the Liver does not duely separate Choler to perfect and digest the *Chyle* in the *Duodenum*, crude Chyle is carryed into the Blood, where meeting with that crude Choler which was not separated in the Liver, this Composition will produce a Humour the more depraved; and so by the Weakness of any other of the *Viscera*, a Humour may be variously depraved; being not only crude and phlegmatick, but also either inclined to Acrimony or some other depraved disposition.

Thus much of the antecedent Cause, in respect of the Humours and Weakness of the *Viscera*; but the Weakness of the *Viscera* may be esteemed an antecedent Cause, as they prepare the indigested Humour, so also the Weakness of the Part affected with the antecedent Humour may be esteemed an antecedent Cause also, since by Weakness a Part may give way to the Pressure of Humours, and occasion Tumour, though the Humour might not be so

so much depraved as otherwise to occasion a Tumour; for when the Fibres of a Part are so much weakened as to lose their tonick Stricture, they may give way to the Impression of Humours, though thin enough to circulate without Obstruction, and thus contribute to the forming of a Tumour. The Weakness of the Part may depend upon the Weakness of the whole Oeconomy; or its own particular Structure, or may be occasioned by preceding Accidents, as Contusions, Fractures, Luxations, &c.

*The Con-
junct Cau-
ses.*

From what we have said, the antecedent Causes of an Oedema are evident, as to the Conject, they are either the Weakness of the Part which admits the Tumour, or the Humours collected by Congestion in that Part; for the Weakness of the Part is not only antecedent, but also conjunct, since it retains the Humour, and is not able to expel it. The Humour contained in the Part differs according to the Difference of the antecedent Causes.

*Diagno-
stics and
Prognos-
tics.*

These Tumours are easily distinguished by their Description. As to the Prognosticks: An Oedema in it self is not dangerous, gross Bodies are commonly most subject to them. When they are occasioned by Accidents, as Wounds, Contusions, &c. they are easily cured, but in weak and consumptive Bodies they easily degenerate into Dropsies. When they grow hard and painful there is Danger of Schirrus, and if they tend to Suppuration, the Matter being crude, the Cure is long and tedious.

*Intentions
of Cure.*

In the Cure there are three general Intentions. *First*, The preventing of the Increase of the congested Humour. *Secondly*, The discharging and correcting the gross or depraved Humour already collected in the Body, which is the immediate antecedent Cause. *Thirdly*, The Removal of the conjunct Cause, which is the Humour congested in the

part, and varies according to the different Temper of the antecedent Cause.

The first Intention is to be obtained by a due Use *The First Intention.* of the Non-Naturals, or the proper Use of Medicines which strengthen the Stomach, and promote Digestion. In Respect of the Non-Naturals: The Diet is to be moderate in Quantity, that it may not overpower the natural Digestion; for whatever is eaten, more than the Stomach is able to digest, occasions Indigestion and Crudities; therefore it is to be proportioned to the Strength of the Stomach, and to consist of such things as are easy of Digestion. The Drink is to be warm and strengthening, that it may assist Nature in digesting. The Air ought to be dry and warm. Exercise is very proper, since it puts Nature upon a Discharge, and helps to attenuate Crudities in order to their being discharged by the common Emunctories of the body; but it ought to be so moderate as not to tire and spend the Spirits; for if it be violent, and more than Nature can well bear without Fatigue, by exhausting the Spirits it becomes prejudicial. Sleep is to be moderate, for by too much, the Spirits are buried and consumed in the phlegmatick Humours.

But to prevent the Increase of phlegmatick Humours, a good Regimen in the Rules of Living is not only to be observed, but the Stomach is to be strengthened by internal Medicines, viz. such as promote Digestion, by assisting the Ferment of the Stomach, as *Sal Volat. Oleos. Elix. proprietat.* drop- in Wine or any proper Cordial, as *aq. Gent. Ab- th. Compos. Mirab, &c.* taking first the Quantity of a Nutmeg of the following Electuary, *R. Conf. Cuthos. flaved. Aurant aa. ʒjss. Cort Citri cond. ʒss. Mosch. cond. ʒvj. Spec. Diarchod. ʒii. cum q. s. r. de cort. Citri. aut Cariophyllor. f. Elect.* or this Electuary may be added other Cordial Spe-
cies

cies, or Electuaries, as the Condition of the Patients Stomach may indicate.

The Stomach may be likewise strengthened by external Applications, either Emplasters or Unguents, forms of which are prescribed in the *London Dispensatory*; or with Fomentations made of warm and aromattick Herbs, as *Absinth. Card. Benedict. calom. Aromat. &c.* Mr. *Wiseman* recommends Decoctions of *Sarsaparil. Lign. Guajac. Sapphas. &c.* But I believe, that such Medicines as are of a direct Diaphoretick Quality scarce make good Stomachicks, since they seem to raise disagreeable Heat, which rather destroys than promotes the Ferment of the Stomach. Nay even the best of Cordials, if taken in too great a Quantity prejudice Digestion by over-heating the Stomach.

The Second Intention.

But to proceed to the second Intention, which is, to discharge and correct the antecedent Cause or ill Humours heaped up in the Blood. If the Body be strong, and only full of gross phlegmatic Humours, bleeding is convenient, to discharge part of them, and by that means make more room for the attenuating of the rest, which will be thereby better disposed to go off by Evacuations of other kinds; but if the Body be weak, and the Vessels empty, Bleeding is to be avoided, lest the Patient being rendered still weaker, should be, by that means, inclined to hydropical Tumours.

Emeticks proper.

But whether Bleeding be thought convenient or not, if the Stomach be foul, and the Patient able to bear it, it will be convenient to discharge the foul Humours lodged there by Emeticks, which will contribute to the first Intention as well as the second, as *Oxymel scillit, Vin. Benedict. Sal. Triol. &c.*

Evacuation by purging.

When the Stomach is cleansed, it will be likewise requisite to make Evacuation by Purging, which may

not only carry off the foul Humours in the Guts, but also make a Discharge of the Cacochymick Humours in the Blood. And since the Humours are commonly gross and phlegmatick, purging Medicines ought to be proportionably strong, and such as are commonly reputed phlegmagogues; which by their acrimonious viscous Parts, have a Congruity, as a proper *menstruum*, to mix with more readily, and consequently attenuate in order to their Discharge, the viscous stegmatick Humours in the Blood. Forms proper on such Occasions may be as followeth;

Rad. apii, petroselin. āa. ℥ss. fl. persicor. genist. P. i. ℥ij. sal. Tart. ℥ij. agaric. in nodul. inclus. ℥iss. zib. ℥i. coq. in aq. font ad ℥viiij. Colat. add. Syr. pin. Cervin. ℥x. pro duabus vicibus. Or, R rad. as ℥i. cort. intern. Sambuc. Ebuli āa. ℥ss. rad. nic. petroselin. āa. ℥ij. Summit. Centaur. min. amon. marrhub. alb. āa. M. j. flor. Sambuc. genist. M. ss. sem. fœnic. carui. āa. ℥iss. fol. sen. ℥x. bith. sem. Carthami. ℥iij. f. Decoctio q. s. vini & e, ad 3 part. stent in infusione per Noctem, ne colentur ℥xij. R Colatur: ℥iv. syr. e spin. Cerv. ℥j. M. f. Haust. per aliquot dies reiterand.

which not only make a Discharge by Stool, but line. If stronger Purgatives are requisite *Pil. ex bus, Coch. extract. Rud.* may be given.

But as purging Medicines are to be frequently repeated to discharge the gross Humours, so it will be convenient to make use of Alteratives, those which intervene betwixt Purging. Alteratives are such as strengthen the Spirits and blood, and consequently attenuate and promote Digestion of the phlegmatick Humours, as *Sal. at. Oleos. Vin. Chalyb. or Chalyb.* Medicines mixed with Cordial and Antiscorbutick Powders and Stuaries. If the Humour be thin, and the Tur proceeds chiefly from the Weakness of the vessels, a Decoction of *Sarsaparil. Lign. Guajac. &c.*

H

may

may be convenient, but if the Humour be phlegmatick, such Diet Drink would rather increasate the Humours by carrying the thinnest part only off by Diaphoresis, leaving the grosser Phlegm undiluted.

The Third Intention.

The third general Intention, which respects the Removal of the Tumour it self, is to be effected by external Remedies, which are to be varied according to the Time of the Tumour; as it is in the Beginning, State, or Declination.

What is to be applied in the Beginning.

In the Beginning, Astringents mixed with Discutients are proper; Astringents contracting and confirming the Tone of the Fibres, and Discutients likewise strengthening the Parts, and also attenuating and rarifying the Humour. If the Tumour be small, Spirit of Wine it self may be sufficient; but,

What Medicines are proper in the State.

In the State, when the Tumour is large, stronger Discutients may be proper, as *R. summit. absinth. abrotan. Origan. Calaminth. puleg. sambuc. cham. Rut. salvia. āa. M. j. Bac. Laur. Junip. ā. ʒj. sem. fenic. Danci. carui cumin. āa. ʒss. cont. dantur simul & coq. in q. s. aq. ad dimid. consump. Colatur. add. Vini q. s. f. Fetus.* The Volatile Effluvia of these Aromaticks not only attenuate and digest the gross Humours, but dispose them better to go off by Sweat, Urine, or Stool, as external Remedies shall give them Tendency, and promote their Excretion; and as they dispose the Humours, the more easily to be discharged by attenuating them, so they have the Effect though not so powerfully, of Alteratives internally, since they attenuate and alter the Crasis of the Humour, impregnating it with their Volatile Particles. After the Use of the Fomentation, the Part may be embrocated with *ol. Laurin. Rutæ* or *Cassia* applying the following Cataplasm, *R. farin. fab. bord. āa. ʒvj. sum. Absinth. Rut. Origan. abrotan.*

ulv. āa. ʒss. flor. Sambuc. cham. ros. rubr. āa. ʒij. Coq. in fottu prædict. ad Cataplasm. Consistentiam, addend. in fine aluminis & sulph. Viv. āa. ʒj. ol. Rut. mellis q. s. If these Discutients are not strong enough, the Fomentation and Cataplasm may be made in a *Lixivium*, and the Part embrocated with the following, *R Cin. brassicæ ʒij. Unguent. de Altheæ. ʒiij. ol. cham. chym. ʒi. M. Emp. de Min. cum Sapon. or Diasulph.* are also proper Discutients in these Cases.

As in the Beginning Astringents mixed with Discutients may be proper, to contract the Parts, and prevent them giving way to the Influx of Humours; so in the Declination they are requisite, to contract the distended Fibres, whilst they are strengthened, by the volatile spirituous Parts of Discutients, for which purpose the following may be proper; *R Cammit. Orig. Marjoran. flor. Aneth. Cham. ros. rubr. āa. M j. balust. Nuc. Cypress. calic. Gland. āa. ʒj. ss. Calom. Aromat, Lign. aloes. āa. ʒij. Coq. in Vino rubr. f. Fomentatio.*

What is to be done in the Declination.

But when all other external Means are ineffectual, a laced Stockin, or Trowze, or a laced Sleeve and Glove, answer the Intention; for if they be laced even, they make a regular Compression of the Parts, and so prevent the Influx, or press out the Humours already congested. If the Tumour be large, the Stockin or Sleeve must be laced streighter and streighter by Degrees, as the Humours gradually give way to the Compression; and Care must be taken, that the Lace be drawn equal, lest an unequal Compression of the Parts should occasion a Tumour. One great Advantage in a laced Stockin or Sleeve is, that they may be used in any time of the Tumour, whether Beginning, State, or Declination, and answer the Intentions both of Astringents and Discutients; so that an œdematous Tumour may be prevented or removed only by the

What Bandage most proper, and when to be used.

Use of them, and internal Remedies to discharge the Humours out of the Mass of Blood, and remove the Cacochymia; yet if they be unlaced, and the Parts fomented once a Day, it contributes the better to the removal of the Humour, since when attenuated, it is more easily pressed out by lacing; besides, the volatile parts of the Medicines help to corroborate and strengthen the Fibres of the Parts, and ease the Parts also by opening the Pores, and giving a breathing to them by Transpiration. But in the Use of a laced Stockin, &c. Care must be taken, to leave off streightening the Stockin, when the Part is reduced to its natural Bigness, otherwise by the ill use of it, the part will be emaciated.

CH A P. XVI.

Of a Scirrhus.

Description.



The Causes.

Scirrhus is a hard Tumour immovable, and of a dark red, or livid Colour, either altogether void of, or endowed with very little Sense.

The Cause, as of all other Tumours, is antecedent or conjunct. The Nature of the antecedent Cause will easily appear, if we consider the Nature of the conjunct. And since in a *Scirrhus*, the Humour is not only so gross and indigested as to be denied a free Passage and Circulation through the capillary Vessels, but hath required so great a Degree of Viscosity and Thickness as immediately to cause a total Obstruction and

Tendency to Induration. It will be requisite to examine, first, how this Humour comes by so great a Degree of Viscosity; and, secondly, why that viscid Phlegm is so apt to tend to Induration.

And first for the Reason, how this Humour acquires so great a Degree of Viscosity. We are to consider, that those Bodies that are subject to such kind of Tumours are naturally of a phlegmatick, or rather melancholy Constitution or Habit of Body; so that the whole Oeconomy of the Humours are perverted and depraved in their Crasis and Disposition, by which means the natural Ferments of the Parts are also vitiated and degenerate from a true natural Tempérament. Now the Ferments of the Parts being thus depraved, it is impossible but that the Humours fermented and digested by them should be perverted likewise, it being the Nature of all Ferments to convert the Juices they ferment into a Substance similar and homogeneous to themselves, whatever is made use of for the Sustenance of those Bodies, being strongly impregnated with the Particles of those Liquors that ferment it. And since in Bodies of a melancholy Habit and Disposition, the Humours are not exalted to that Degree of Digestion and Volatility, as in those of sanguine or good Constitution, the Liquors assililated by them must likewise be crude and indigested, and consequently gross and inclined to Viscosity. But as long as they retain that degree of Digestion, which is homogeneous to the Body they belong to, they in respect of that Body may be said to be natural, and answer all the Intentions of Nature, without occasioning any Disease; the natural Structure of the Vessels and Crasis of the Humours of the same Constitution being proportionate and suitable to one another. But when it happens, that the natural Fermentations of the Parts, and consequently of the Humours they prepare,

*Viscousness
of a Scirr-
hus Hu-
mour,
whence.*

*Crudities
different
according
to Constitu-
tions.*

*The Nature
of Scirrhus
Humours,
further con-
sidered.*

are depressed below the natural pitch of that Body they belong to; Crudities may then be said to be heaped up in that Body, by which, as they more or less abound, the Blood may be rendered too gross and thick to pass through the Capillaries of that Body, and so occasion Tumour. And since Crudities in a Body whose natural pitch of Digestion is higher creates Phlegm, in melancholy Bodies where Digestion is naturally depressed, Crudities in those Bodies must be more gross and viscid, as they are more crude and indigested.

But the Crudities in a melancholy Body are not only more crude and indigested than in others, but are likewise impregnated with something, that inclines and disposes them to Induration, which is likewise the Cause of their being more viscous than ordinarily. The better to understand the Nature of this, we may consider, that in all Bodies the Nature of the pancreatick Juice is acid, the Use of it being allowed to be to curdle the Chymus in the Duodenum, that the Chyle and excrementitious faces might be separated from each other. Now since all Acids, as well as other Qualities in Humours, the less they are digested, become the more crude; they must consequently be more crude in Bodies of melancholy than of other Constitutions, since the natural pitch of Digestion is lower, and since Acids, the lower they are digested, and the more crude they are, are the nearer to an Austere; (as the Juice of the Apples, which by Digestion loses its Austerity as it becomes more acid; and since likewise, it is the Nature of Austere to render them more inclinable to coagulate and grow viscous, the Bodies they are contained in, than Acids; it will not only follow, that when Digestion is depressed in a melancholy Body, the pancreatick Juice comes nearer to an austere Quality, but that it will also by Consequence communicate the Qual-

lities

ties it is endowed with to the Chyle in the *Duodenum*, by which means the *Chymus* ill digested in the Stomach, will be very little improved in the *Duodenum*. The fermentative and digestive Qualities of the *Choler* being depressed by the great Acidity, or rather Austerity, of this pancreatick Juice; so that the worst of Crudities are conveyed into the Mass of Blood, being not only too thick and viscid, but by the Tincture of this acid austere Juice, inclinable to coagulate and indurate.

And thus much for the Nature of the antecedent Cause, from whence appears also the Nature of the conjunct; for when either by a Separation of the thinner Serum, or otherwise, this crude Humour is made thicker or chilled by accidental Cold, or any other Accident, so that it happens to want its free Passage, and obstructs in the Vessels; for want of the Agitation and Motion of Parts it had in Circulation to preserve its Fluidity, it soon coagulates, and, as other gross Bodies, presently grows viscid and tough; but in a greater degree proportionably to the Nature of the acid austere Qualities latent in it. Now whereas in other Tumours the Humour is impregnated with *volatile, saline, sulphureous* Parts, which are predominant, and consequently inclines them either to terminate in Discussion, or Suppuration; in this viscid Matter, the volatile Salts or sulphureous Parts are so much depressed, by this acid-austere Juice, that they are not able to exert themselves, much less to divide and separate the Parts of so tenacious and viscid a Coagulum, or to bring them to Digestion; but the more thin and fluid Serum being separated from the viscous indigested Phlegm by Coagulation, it gradually evaporates, and accordingly the Matter grows harder and more confirmed; so that at the last it forms a perfect Scirrhus.

The Nature of the conjunct Cause considered.

The Differences.

As to their Differences, they happen according to the Nature of the Humour, as it is more or less viscid, and is complicated with a Humour of another kind, as Choler, Phlegm, &c. and so a Scirrhus may happen to be *Oedematodes Phlegmonoides*, &c. They differ likewise, according to the time of them, as being either imperfect or confirmed. Or as it is an Original Disease of it self, or the Termination of another, as a Phlegmon, or Oedema, through ill Management the thinner Parts being evaporated, and the grosser Phlegm left behind.

The Diagnostics.

As to the Signs: A true Scirrhus is a hard Tumour, immoveable and of a dark red Colour, but livid, if the Humour be mixed with Phlegm. A true Scirrhus is likewise void of Pain, but an imperfect one sensible when pressed upon. If the Tumour be Original at the first it is no bigger than a Pea, but gradually increases. If it be the Event of a preceding Tumour, that will appear from the Accidents that attend it.

The Prognosticks.

A Scirrhus confirmed, and without Sense, is incurable, the Induration being so great, that the Parts of Fluids cannot interpose to separate and dissolve them. But an imperfect Scirrhus is sometimes dissolved, but sometimes terminates in a Cancer. A Scirrhus proceeding from Phlegm, the Skin being without change of Colour, and being hard and large, with Hair growing on it, is incurable.

Intentions of Cure.

In the Cure of a *Scirrhus* there are three Intentions: The First is a regular Diet. The Second is to discharge and cleanse the Blood of the antecedent Cause. The Third is a due Application of Medicines to the Part it self.

The First Intention.

And first their Diet ought to consist of such things as are easy of Digestion, and not subject to be soured by Acids in the Stomach and Guts, and their Drink such as may warm the Stomach, and correct Acidities.

ies. Exercise and Sleep are to be moderate, and the Air ought to be clear and temperate, and free from Passions of the Mind.

The second Intention is performed by frequent Evacuations by Purging, and making use of such Medicines as may digest and alter the peccant Humour in the Blood. And first if the Body be full of Humours, Bleeding may be convenient, otherwise to be avoided; the Body is to be kept open by Clysters, and the Humour discharged by convenient Purges, as *Decoct. fennæ Geronis, Epithym. pil. de Lap. Lazul. de Agaric. aggregativ. &c.* which are frequently to be repeated, that by quickening the Peristaltick Motion of the Intestines, they may make a quicker Discharge of that slimy Mucilage that naturally lubricates them, and so drain the Blood of superfluous Phlegm. Those Days that are vacant betwixt Purging, alterative Medicines are to be given, which may not only strengthen Digestion in the Stomach, and correct the Acidities of the Pancreatick Juice, but also imbibe and correct the Acidities of the Blood, and promote the Digestion of the whole Mass of Humours, by strengthening the spirits, and promoting the natural Ferment of the blood, as *Sal. volat. oleos. sp. Sal. Arm. cum Gum. Ammon. or Milleped.* which may be taken in a convenient Julep of *Aq. Absinth. Gent. Comp. Aq. Mithrid.* &c. As also Electuaries which are Stomachick and Antiscorbutick with Chalybeates and proper Antiscorbutick Powders and Species; but these belonging more to a Physical than Chirurgical Discourse, I shall proceed to

The second Intention.

The third Intention which respects the Tumour itself. Where Repellents are useless, and rather inurate and harden such gross Humours, Emollients are likewise to be cautiously used alone, lest the Tumour tend to a Cancer, the Tumour being softened without discussing. Too strong Discutients are

The third Intention.

are likewise dangerous, lest they increase the Tumour by consuming the thin, and leaving the gross Part to indurate; they are therefore to be proportioned to the Constitution of the Patient, and the time of the Tumour: tender Bodies require milder Discutients, and those in soft Parts are more easily dissolved than those that are on the Ligaments and Tendons.

Where mild Resolvents are convenient, the following may be made use of. *Adeps Gallin. ol. amygdulc. lil. adeps Anseris, sebum hircin vitulin. vaccinae axung. porcin. vet. rad. Althæe lil. sem. fenug. lini, &c.* or where stronger are requisite, *Rad. cucum. agrest. bryon. sigil. Solomon. Ireos. pix naval. liquid. Terebinth. Gum. Galban. Ammoniac. Bdellium Opoponax, &c.* which convenient Topicks may be compos'd; *R. rad. Althæe lil. āa. ℥iv. rad. cucum. agrest. ℥i. sum. cicutæ M. ij. sum. Majoran. M. j. fl. melil. sambuc. āa p. j. sem. lini, fenugrac. Althæe āa ℥j. coq. in q. Aq. font. colat. add. acet. parum*, which being mixed with proper Dissolvents, hath a very penetrating Quality, and contributes to the dissolving gross Humours.

In tender Bodies, and the Beginning of the Tumour, the following Cerot is proper. *R. rad. Althæe ℥ss. rad. lil. ℥iij. sem. lil. & fenugrac. āa ℥j. coq. in Brodio ex capite & pedibus vervecin. deinde pistatur. & trajiciantur per setaceum, addend. ol. Cham. āa ℥ij. assp. ℥j. s. Emp. Diachyl. simp. cum ol. lil. solut. ℥iij. ceræ alb. q. s. f. Cerot.*

If the Scirrhus be perfect, and amongst the Tendons, Fumes of *Acetum*, or Spirit of Wine sprinkled upon a hot Stone, will be proper, rubbing the Part, and applying the following Cerot. *R. Gum. Galban. Ammoniac. Bdellium in acet. solut. āa. ℥j. Styrae. Liq. ℥j. Diachyl mag. ℥ij. ol. lil. axung. āa ℥j. cerot. asspat. ℥ij. liquecant omnia simul & coq. ceræ alb. q. s. f. Cerot. molle.*

Thus much of Medicines proper to be applyed to the Tumour it self; but how they affect the Tumour, and help to discuss and dissolve the Matter of the Tumour, since it will sufficiently appear from what hath been said of the Nature and Manner of Discussion, in the Chapter of Tumours in General, we shall not need to repeat it here.

C H A P. XVII.

Of Warts and Corns.

Wart is a fungous Excrecence, *Description of Warts.*
thrust out from the Extremities of

small Vessels in the Surface of the Cutis, occasioned by a Tumour in the Glands of the Skin, which grow spongy, and increase after the man-

ner of a *Sarcoma*. Their Surface is sometimes smooth and sometimes ragged, and chapped. Those which rise from a broad Basis are called *Verrucae Sessiles*; others rising from small Roots enlarge themselves, and form a pensile Tumour called *Acrochordon*.

A Corn is a *Scirrhus* Tumour on the Surface of the Cutis, formed by a Condensation of that Serum which is separated by the Glands of the Skin, which being too thick and viscous, condenses in the excretory Vessels of the Glands, and is fed and increased by the Addition of fresh Matter from the Gland that lyes under it, and from whence it rose: as it increases it is forc'd into the Skin by external Pressure, and so becomes painful; as also Pain is occasioned by the Obstruction of that Humour which ought

*Of Corns,
and their
Cause.*

ought to be discharged, the Pores being crouded with it, and consequently the nervous *Papillæ* compressed by it. The Corn seems to grow from the *Cuticula* inward, because the Apposition of Matter which increaseth it is from the Vessels that lye under it, but that they grow from the Vessels below, is evident, since when they are cut away externally they grow again from their first Origin. They are sometimes soft, and sometimes hard, according to the Quantity of viscus Matter they are supplied with, and its Indisposition to indurate.

Diagno-
stick.

Both Warts and Corns are so apparent, that they want no Tokens or Signs to discover them.

Prognos-
ticks.

Warts frequently fall off themselves; but Corns are seldom cured, but are subject to return again.

Cure of
Warts.

Remedies commonly applied to Warts are, the Juice of *Celandine*, *Marygolds*, or *Spurges*, or they may be rubbed with *ol. Vitriol.* or *Sulphuris*, which will gradually consume them; but the quickest way of destroying them is by Ligature, or the Caulstick Stone.

of Corns.

Corns are cured by paring them off, and applying red soft Wax, or *R. picis naval. ʒj. Emplast. Diachyl. mag. ʒiij. Gum. galb. acet. solut. ʒss. Salis Ammoniac. ʒj. M. or R. Alum. Vit. Ungar. Auripigment. āa p. æq. pulver. & cum acet. misc.*

C H A P. XVIII.

Of a Cancer.



Cancer is a round Tumour, unequal- *Description.*
ly hard, of a livid or brown Colour,
with exquisite pricking Pain; and
sometimes Inflammation, the Veins
in the Surface of the Skin being
turgid.

As for the Reason of a *Cancer*, since there seems *The Cause*
to be an Affinity betwixt it and a *Scirrhus*, they
being frequently complicated, and a *Scirrhus* often
generating into a *Cancer*, as an *Oedema* does into
Scirrhus; it may not be amiss to consider the Affi- *The Affinity*
ty likewise betwixt the Causes of a *Scirrhus*, and *betwixt the*
the Cause of a *Cancer*. From what hath been said *Cause of a*
therefore of the Cause of a *Scirrhus*, it appears, *Scirrhus,*
that the viscous Matter which occasions it, proceeds *and of a*
from Crudities impregnated with the Pancreatick *Cancer,*
Juice, which, for want of being digested to its na- *considered.*
tural Pitch, is a crude acid, and so comes nearer
the Nature of an austere, for which Reason we
call it acid-austere. Now as this mixed with Cru-
dities makes them viscous, and is the Result of
melancholly Humours depressed below their natural
Pitch of Digestion; so we suppose, that when this
acid-austere Juice is conveyed into the Blood, and
thence circulated sometime; by frequently passing
through the Ferment of the Spleen and Liver,
being farther digested, and mixed with the Cho-
ler in the Substance of the Liver, it acquires
hot and sharp Parts; or the Choler compo-
sed partly of this indigested Ingredient, is too
gross to be separated altogether by its proper Ves-
sels in the Liver, and so flows back along with the
the

the venal Blood, and is mixed with the whole Mass, and this crude austere cholerick Humour we take to be the antecedent Cause of a Cancer, which being the Cause of a Tumour, by obstructing the capillary Vessels, when it is lodged sometime in the Part, the cholerick Particles overpowering the cruder Particles, get the Predominancy, and acquire a greater Degree of Acrimony, so that the conjunct Cause of a Cancer is a crude austere Phlegm mixed with an acrid crude Choler, grown virulent by its Tendency towards Corruption; but the Nature of this Humour differs according to the different Temper of the Patient being more or less cholerick or phlegmick, and so of less or greater Affinity with a *Scirrhus*.

Differences. *Cancers* differ either as they are ulcerated or not. Those which are ulcerated, are either external with Tumour, or latent, as in the *Palate Anus*, &c. Some that are not apparent are also without Ulceration, being hard and moveable in the Glands of the Breast, being partly scirrhus; others are hard and fixed to the Bones. The milder sort of *Cancers*, which are partly scirrhus, increase slowly and are not very painful. *Cancers* which are ulcerated, sometimes bleed, from the Extremities of Vessels in the *Fungus*. They also differ according to the Difference of the Part affected, and as they arise from small Tubercles, or an Excrescence; from whence it spreads into the adjacent Parts with loose *Fungus*, rotting and corrupting the Bones underneath them. *Cancers* in the *Uterus* or *Podex* also differ as they effect the internal or external Parts. When they affect the Bottom of the *Uterus*, or the upper Part of the *Rectum*, they do not appear till they have made a considerable Progress, occasioning *procidencia Uteri* or *Ani*, and a Suppression of Urine with great Difficulty of going to Stool. If it be

Chap. XVIII. *Of a Cancer.*

III

When in the bottom of the *Uterus*, it is attended with a Fever, Nausea, and Anxiety of Mind.

As for the Diagnosticks, whether they begin with a Tubercle or Excrecence it is very small at the first. They increase according to the Nature of the Humour, quick or slow. If the Humour be very corrosive, they are very painful, attended with a Phlegmon or Erysipelas; under the Inflammation they are soft, but if open'd, only issue out a Gleet, which dries up again when the Pain is abated. Sometimes a Cancer is attended with an edematous Tumour, the whole resembling a Tumour by Congestion, of a pale livid Colour mixed with brown, the Veins in the Skin being large and turgid; so that the Tumour and the Veins being compared to a Crab and its Claws, they thence derived the Name of *Cancer*. The Swelling is made up of a great many Tubercles, which make the Tumour large and unequal: at last they break and ulcerate with hard painful Lips thrust out, and discharge a stinking Gleet.

A Cancer is generally incurable, the corrosive malignant Quality of the Humours, being neither check'd with internal nor external Medicines. Those that are superficial, or proceed partly from an external Cause, as a Bruise, &c. may be removed by Knife or actual Caution; but those that proceed from an internal corrosive Humour, tho' removed by Knife or Caution, are dangerous, and if cured, are hard to cicatrize, especially those in the Mouth, or internal Parts.

In the Cure there are three Intentions. First, The making of good Blood. Secondly, The correcting and discharging of the peccant Humour in the Blood. Thirdly, The preventing the Increase and disposing it to Discussion.

The first Intention is answered, by observing a strict Regimen in Diet, which is to consist of such things

things as are easy of Digestion; and avoiding all such things as are salt or sharp, or apt to breed Crudities in the Stomach.

*The second
Intention.*

The second Intention is next to be pursued: And first if there be a *Plethora*, or Hemorrhoids or Menstrua be stopp'd; Bleeding is convenient; and a Clyster to make the Body soluble; after which the Humours may be discharged with lenient Purges as *Decoct. Epyth. sen. Geron. &c.* giving the following Decoction thrice a Day. *R. rad. & fol. Caryophyll. chelidon. maj. pimpinel. Gent. Plantag. aa. M. j. coq. simul in Aq. part. ij. Vin. part. j. ad lbij.* to be sweeten'd with Sugar, which consisting of Bitters and Astringents, the bitter Qualities will help to correct the Pancreatick Juice, and the Astringents contribute to take off the Edges, and alter the Nature of acid and sharp corrosive Parts, by imbibing and involving of them betwixt their Parts. Or *R. rad. scrophular. maj. tapsi. barb. aa ʒij. filipend. Ceterach. herb. Robert. Agrimon. tormentil. scabiosa. linariae aa M. j. flor. sambac. Anth. aa p. j. sem. urticae ʒij. f. Decoct. Colatur. add. Syr. de pom. Alterant. & de suc. Citri. aa. q. s.* the Ingredients of which being bitterish, astringent, and aromatick, the bitterish aromatick Qualities correct the acid acrid Particles of the Humours, and the Astringency involve and imbibes the hot corrosive Parts of the Blood, and by that means dulls their corrosive Qualities. The following Electuary is accounted also a specific sick *R. pulv. ranar. Linac. præp. aa ʒʒ. pulv. camphur. fluviat. ʒj. os de corde Cervi ʒj. cort. citri cond. ʒj. Conf. Borag. Lujul, aa ʒij. Syr. de suc. citri Caryophyll. aa q. s. f. Elect. cap. q. N. Castinac. mane & vespere superbibend. haust. decoct. supra descript.* which all imbibes and cool the acid acrid Parts of the Blood. Emulsions also and Opiates are convenient to allay the Heat of the Humours, and ease Pain; for Opiates not only act as Anodynes, by their somniferous

Quali

es, but by their Bitterness correct Acidities, and by their anodyne Qualities also take off and dull the Edges of corrosive Humours, and help them to discharge themselves by Transpiration; for when their corrosive Qualities are dulled, they no longer wrugate and contract the Pores, by affecting the nervous Papillæ, but pass off freely, and without being offensive, so long as the opiate Qualities continue their Effects.

But to proceed to the third Intention, which is *The Third Intention*, to restrain the growth of the Tumour, and gently discuss it.

And first the Increase of the Tumour is to be *Repellents,* restrained by the Use of Repellents, but such as *when to be used.* are mild, lest they thicken, and make the Humour gross for Discussion, as *Lactuc. portulac. plant. Umbelic. Ven. solan. semperviv. Unguent. alb. trit. Populeon. Tutia. de plumb. ust. or Lamina beaten Lead or Gold;* which Medicines are Repellents by Accident, gently abating the Heat of the Humours, and contracting the Parts by their astringing Qualities, and as they are anodyne, and ease the Pain: How such kind of Repellents produce their Effects, I have more fully answered above in the Chapter of Tumours in General.

Besides the forementioned Applications, Oyl of Eggs baked with Butter in their Mouths, is commanded, and *aq. Sperm. Ranar.* with a Solution of *Char. Saturni*, dipping Cloths in it, which are to be renewed as often as dry. But in the Winter, when there is Danger of getting Cold by opening the Part often. *R. ranar. virid. ʒiij. Canthar. fluviat. combust. ʒss. Lytharg. auri ʒij. plumb. Tutia præp. āā. ʒij. ceruss. ʒvj. suc. solan. plant. āā. ʒvj. aceti ʒij. ol. ranar. & unguent. popul. ʒiij. sev. vitul. ʒiv. cera. q. s. f. cerot. Or, R. papaver. alb. ʒj. sem. hyosci. ʒss. Opii. ʒj. Gum. Arab.*

Arab. ꝑ. pulverizentur. ol. ros. myrt. āa. ꝑ. cerot. The former abates the Pain by cooling the Part, and the latter by its opiate Qualities; but if the Pain be violent, the Quantity of Opium may be doubled; or the Part may be fomented with a Decoction of Poppy Heads, tops of Melilot and Rose Leaves, applying the following Unguent. *R. Theriac. Vet.* ꝑ. *suc. cancer. fluviat.* ꝑ. *suc. Lactuc. & ol. Ros.* āa. ꝑ. *Vitel. ovor. sub. merib. coct.* No. ij. *camph.* ꝑ. *Agitentur in Mortario plumb.* which are both anodyne and cooling.

*Discuti-
ents, when
to be usel.*

When the Use of Repellents, which act the by accident, and gently, have been continued long as is convenient to restrain the Growth of the Tumour, whilst internal Remedies endeavour to restore the Blood to its natural Crasis, and take away the *fomes Morbi*. It will be then convenient to make use of gentle Discutients, as, *Agrim. Ceterach. Lens. palust. scabios. Stramonium, suc. rianadr. Limac. ranarum Cancer. fluviat. Raisins of Sun* stoned and beaten into a Cataplasin, with *and Garden Nightshade*.

*Extirpati-
on, when re-
quisite.*

But if the Tumour notwithstanding tend to ulcerate, it may be convenient to extirpate it with a Knife, if it be loose, and in a Place where it may be done without Danger. In doing of which there will be hopes of better Success, if the Patient be strong, and of a tolerable Constitution, and before the Menstrua cease, and likewise if the Cancer be loose, and no painful Glands under the Axilla; or if it proceed from a Bruise or some other Accident. As for the time of the Year, Spring or Autumn are most proper, the Spirit being neither exhausted with excessive Heat, nor depressed with extream Cold.

*The manner
of Extirpa-
tion, and
what is to
be done af-
terwards.*

In order to Extirpation, as in other Amputations, good Rowlers, Compresses, Restrictives and

De

Defensatives are to be provided; and cauterizing Irons ready heated in some part of the Room. Then the Patient being placed in a convenient Light, the Operator is to pull the Breast to him with one Hand, whilst he cuts it off with the other; and the Flux of Blood is to be stopped with *pulv. Galen.* but if there be any part of a cancerous Gland left behind, it is to be consumed by a cauterizing Iron; and the large Vessels themselves may also be restrained from bleeding by the cauterizing Button, if the restrictive Powder prove ineffectual; Escharoticks being improper, especially in this Case, since they will spread and corrode the adjacent Parts, and cause Pain. But whether actual Cautery or Restringtons are applyed, the Patient being dressed up with proper Defensatives, Compress and Bandage, it will be convenient to place the Patient in Bed, and give him an anodyne Draught to ease the Pain, and quiet the Ferment and Heat of the Humours.

The second or third Day it is to be dressed with *Digestive*, Digestives, as, *Terebinth. cum Vitel. ov.* or, *R. Terebinth. Lot. ℥iij. syr. de ros. sic. ℥j. s. suc. plantag. per. solan. āā. ℥ij. suc. apii ℥j. coq. ad. demid. suc. Consumpt. deinde add. farin. bord. ciceris āā. ℥ss. Croci ℥ij. Vitel. ovi No. j. M.* If there be Pain, the following Anodyne may be applyed over it, *R. Muc. rad. & fol. Altheæ malv. violar. āā. ℥ij. farin. trit. ℥ij. ol. Rosar. ℥iij. coq. ad. consistentiam Cataplasma. addendo sub fine coct. vitel. ovor. No. ij. Croci. ℥j. M.* but if there be no Pain, *Emp. e bol.* over all is sufficient. When it is sufficiently digested, deterge the Carn and cicatrize as in the common Intentions in Wounds. Yet the Body is still to be kept soluble with Clysters and Purges, to be repeated as Occasion requires, and Fontanels are to be made to drain the Blood of any ill disposed Humours

that may remain and hinder the part from cicatrizing.

If in cicatrizing the Lips grow callous, they are to be destroyed with actual Cautery, before it affects the musculous Flesh. To promote cicatrizing of these Ulcers the following Applications are commended, *R. ol. Ros. ceræ alb. āā. ʒ. fs. suc. granator. & solani āā. ʒij. ceruss lot. ʒij. plumb. ust. & tutiæ pulv. āā. ʒss. Thuris Mastich. āā. ʒij. M. Unguent. S. A. or, R Unguent. Tutie Vigonis ʒij. Theriac. Venet. ʒj. Sacchar. Saturn. ʒi. Suc. Gera q. s. in Mortar. plumb. M.*

If a cancerous Ulcer be in the Mouth, it is either to be destroyed with actual Cautery, or treated with palliating Medicines, according to the Method already proposed.

C H A P. XIX.

Of Noli me tangere.

NOLI me tangere is a small round acuminated Tubercle, without much Pain, except it be touched or rubbed, or exasperated by Applications. This Tumour sometimes happens in the Face and Lips, as well as other parts of the Body. It is small, and of a blewish Colour, without Inflammation or Hardness in the parts about it. *Description.*

In the Cure of this Disease purging is necessary, and may be improved by adding a convenient Quantity of Calomel or Mercur. Dulcis. Emulsions, and such things as temper the Humours, are also convenient, as in a Cancer. After which the Tumour being consumed, by actual or potential Caustery, the Eschar is to be dressed with Dige- tives, as *Unguent. Basil. mag.* then deterge with *Merc. præcip. rubr.* and incarn and cicatrize with *Unguent. Tutie*, confirming the *Cicatrix* with a few drops of *Tinct. Vitriol. Dulc. in aq. rub.* *The Cure.*

CHAP. XX.

Of waterish Tumours.

*Difference
and Nature
of waterish
Tumours.*



Waterish or hydropical Tumours are the Effect of the Serum of the Blood either distending the Vessels, or extricated; and according to the part affected have different Denominations. If it be discharged into the Cavity of the Belly, it is called *Ascites*; in the *Thorax*, *Hydrops Pectoris*; in the Head, *Hydrocephalus*; betwixt the Skin and the Flesh, or in the interstices of the Muscles, *Anasarca*; in the *Scrotum*, *Hydrocele*. Waterish Tumours differ from œdematous, the Humour being thinner, and more apt to pit, but sooner filling up again, when pitted; besides, the Skin is pellucid, and glisters, and the Tumour in some measure transparent, whereas in an *Oedema* the Skin varies not from its natural Colour. *Ascites* differs from a *Tympanites*; in the first the Tumour being heavy, and the Water swagging about in the Belly, but in a *Tympanum*, the Tumour is light, equal, and hard.

*The Cause,
partly from
the Fault
of the Vessels.*

As to the Causes of waterish Tumours, they proceed partly from the Fault of the Vessels, and partly from the Fault of the Humours; the Vessels are in Fault, when by the natural Weakness of the Viscera they are not able to concoct or assimilate the natural Juices of the Body; and first the Stomach may concur, when by its Weakness the Chymus is not sufficiently digested, but slips through it imperfect; a waterish Humour instead of Chymus

being transmitted through the Lacteals into the Blood. Or, secondly, the Viscera which are concerned in Sanguification may be in Fault, when by their Weakness they are not able to assimilate and digest the Chyle transmitted from the Stomach and Intestines, by which means a great Quantity of Serum is heap'd up instead of Blood. Or, thirdly, the Kidneys may occasion a greater Quantity of Serum to be gathered and retained, when they are deficient in separating a sufficient Quantity of Serum by Urine. And, fourthly, when by the Weakness of the whole a sufficient Quantity is not forced out by the Pores of the Skin. Fifthly, when the Vessels through Weakness discharge it into any Cavity in the Body, or giving way to the pressure of Humours, encourage a Tumour by their distension, whilst a fresh Quantity of Serum is admitted into the Vessels above, to supply the want of that settled in any part, or extravasated into a particular Cavity. Lastly, the Vessels contribute, when by large Extravasations of Blood the Vessels are empty, and admit too great a Quantity of Serum.

The Humours themselves are in fault, and occasion a greater Quantity of Serum, than natural, to be collected in the Body, when they are so languid, that they are not able to supply the parts with proper Nourishment, to strengthen their Fires, that they may retain what they ought, or expel what is superfluous, so that the Food too soon passes through the Stomach, and the weak Vessels of other Parts are easily distended or broke by the Pressure of their Contents. Secondly, The Humours are in fault, when they are not able to supply the Ferments of the Parts with due Matter for recruiting and continuing of them, that the parts might duly perform their Office, either in digesting or sanguify-

*Partly from
the Faults
of the Hu-
mours.*

ing. Thirdly, the Humours are in fault, when by their depraved Qualities they impregnate the Chyle with their Particles, so that it becomes unfit for Sanguification, and therefore remains in the Form of Serum. Fourthly, The Humours are in fault, when they are too gross to be separated in the Kidneys, or to pass through the Pores of the Skin. Fifthly, When by their superfluous Bulk or Quantity they crowd the Vessels, and being forced upon some weak Vessels, they either distend them and cause Tumour, or break them and force an Extravasation.

The Diagnosticks.

As to the Diagnosticks, if they are external, and near the Skin, it appears of a thin pellucid Colour; but if they are so deep as not to affect the Skin, yet by shaking the part you may perceive the Humour undulate. These sort of Tumours are without any considerable Pain.

The Prognosticks.

Waterish Tumours are not mortal, unless they obstruct or taint the Viscera, for which reason internal Tumours are likewise more or less dangerous, according to the Nobleness of the part affected.

Intentions of Cure.

In the Cure there are four Intentions. The first respects the Regimen in Diet, and the rest of the Non-naturals. The second is, To discharge the superfluous Serum by Stool, Urine, or Transpiration. The third is, To strengthen the Vessels and Humours, and restore them to their natural Tone and Crasis. The fourth is, To promote the Discharge of the Humour out of the part, which is to be done by Discutients, drying Medicines, or Apertion.

The first Intention.

And first, Their Diet ought to be moderate in Quantity, and easy of Digestion, yet very strengthening; as strong Broths, with warm and cordial Spices. Their Drink likewise moderate in Quantity.

tity, but cordial and strengthening; moderate in Quantity, because the Vessels are already too much crowded.

The second Intention is to be performed by *The second and third Intention.* Purging, with such Medicines as may make a good Discharge, which are therefore strong, as *Elateryum Gambug. Sambucin. &c.* But this, as well as the third Intention, chiefly belonging to the Physician, I shall not insist upon them in a Chyrurgical Discourse, but proceed to

The fourth Intention, which is to promote the Discharge of the Humour out of the Part by Dis- *The fourth Intention.* cutients, as, *Rx Sum. Abrotan. Absinth. Origan. Camaminth. Majoran. āā. M. ij. flor. Sambuc. Cham. aneth. ros. rubr. āā. M. j. Bac. Caur. Junip. āā. ʒij. roq. in q. s. aq. font. f. Decoct. pro fotu.* Or, *Rx Sal. Nitri ʒv. piper. alb. ʒvj. Euphorb. ʒij. ol. Laurin. ʒvj. M.* with which the Parts may be embro- tated, or the following Cerot may be applied, *Rx Sem. anis. Cumin. bac. myrt. Lauri. āā. ʒss. suc. Ebu- ni. ʒiv. ol. Rut. & ceræ q. s. f. Cerot.* If by the Use of these and internal Medicines the Event be not successful, it will be reasonable to proceed to Apertion. The manner of performing which, I shall hereafter lay down more fully: I shall here only in short represent, that the Patient being laid upon one side, the Apertion is to be made about three Fingers breadth below the Navel, on the upper side; and when a sufficient Quantity of Serum is let out, either a Silver Canula is to be inserted, and placed in the Apertion, or it may be dressed with a pledgit of *Basilic.* and *Emplastr. ad herniam* over all, with convenient Compress and Bandage, till it shall be thought fit to make a new Discharge; and after a sufficient Discharge, the same Method in dressing the Part may be repeated, till the whole Serum in the Cavity of the Abdomen be discharg'd.

In

*Bandage
serviceable.*

In anasarcaus Tumours of the Legs, Arms or Thighs, good Bandage is very serviceable, which may be made with a laced Stockin, Sleeve or Trowze, by which means the Humours are pressed back into the Vessels, and disposed, as they circulate, to be carryed off otherwise by internal Medicines. Bandage is also proposed as useful in an Ascites, to prevent the sudden Tumour of the Abdomen, but in this Case it seems to be less convenient, for since the Largeness of the Tumour, by a greater Quantity of Humours collected within, only makes a greater Pressure upon the Viscera, and the sanguiferous Vessels and Diaphragma, and so proves fatal; that Pressure is sooner made when the Parts have less Liberty of extending themselves.

Of Hydrocele.

Description.

Hydrocele is a waterish Tumour of the Scrotum. It is either complicated with an Ascites or Anasarca, or simple and original. When it is joyned with an Ascites, there is commonly an Anasarca of the lower part of the Belly complicated with it. If it is an Original Tumour of the Part, it is either without the Tunica Vaginalis affecting the whole Scrotum; or contained within that Tunicle, and then the Tumour may happen to be on one side and not the other; but if both sides be affected, the Tumours are distinct.

The Cause.

As to the Cause of an Hydrocele, if it be complicated with a Dropsie, it proceeds from the same Causes, the peritonæum only being relaxed to permit the Serum to fall into the Scrotum; but if it be Original, it commonly proceeds from an Extravasation of Serum, occasioned by the Rupture of some

Vessels

Vessels, by a Bruise, or Fall, or some other Accident.

As to the Diagnosticks. A Hydrocele, complicated with an Anasarca, is a bright, soft, and thick Tumour of the Scrotum, easily yielding to Impression, attended with a Tumour of the *præputium*. A simple *Hernia aquosa* fills the whole Scrotum like a Bladder. If the Tumour be within the *Tunica vaginalis*, the Scrotum is swelled proportionably to the Bigness of that Tumour, and being not extended to its full Scope, is in some Measure wrinkled. It is distinguished from a *Hernia Intestinalis* by pressing the Production with your Finger, whilst the Patient coughs; for if it be an intestinal Rupture, something will press against your Finger like Wind.

If a Hydrocele be complicated with a Dropsie, it cannot be cured till the Dropsy is cured. If it proceed from an external Cause, it is easily cured; or if the Constitution be good. If it be difficult to cure, it may be let out as often as it is full, without Danger.

In the Cure of this, the same Rules in Diet are to be observed, as in the Chapter above proposed, and the same external Applications, only a Bag-truss is necessary to sustain the Parts, lest by the Weight of the Humour the Tumour should increase, the Weight of the Serum contained extending the Membranes, and making way for more Water. If the Tumour will not give way to Dissections, but tends to Suppuration, it is to be promoted and treated accordingly. If there be much Water in the Scrotum, it is to be discharged by Apertion; but if the whole Scrotum be anasarcous, it may be relieved by Scarification or a Seton; or if the whole Body be anasarcous, the Seton is to be made transverse in the most depending Part, and kept

Diagnosticks.

The Prognosis.

The Cure.

Apertion, when requisite.

kept open till all the Humour is discharged, the Part being cherished with Stupes wrung out of a Decoction of *Sam. Absinth. Majoram. fl. Cham. ros. rubr. balust. bac. myrt. N. Cypress, &c.* bboyled in Wine, by which the Temper of the Part will be preserved, and the Danger of Mortification prevented. But if notwithstanding there be any Appearance of Mortification, the Seton is to be pulled out, that the Flux of those sharp Humours may be stopped.

In a *Hernia aquosa*, if the Water be contained in the Scrotum, it is to be let out by Incision, but not before a considerable Quantity of Water be collected, lest in making Incision, the Scrotum and Testicle being too close, the Testicles should be hurt. When Incision is to be made, the Patient being Placed in a good Light, the Scrotum is to be held steady, and the Water to be pressed down to keep the Scrotum tense, and more distant from the Testicles; then Incision is to be made by Puncture in the most depending Part, and large enough to insert a Canula; which being done, and all the Water drawn out, a pledgit of *Basilicon* is to be applied to the Incision, and a sticking Plaister over it to retain the Pledgit, then apply a Stupe wrung out of an Astringent Decoction to contract the Scrotum, and a Bag-Truss to keep the Dressing close, by which means the Puncture will in a few Days be healed, and the Part contracted; yet it will be still necessary to apply *Emplast. Casarii*, or some other Astringent Plaister, and a less Truss to prevent a Return of the Tumour.

If the Water be contained in the *Tunica Vaginalis*, or a proper *Cystis*, as sometimes it happens, a longitudinal Incision is to be made in the Scrotum, that you may have more room to discharge the Water in the *Tunica Vaginalis*, or *Cystis*, and may

with more Conveniency apply proper Medicines to the Parts. When these Operations are performed, the Patient ought to be of a tolerable Constitution, they being subject to Inflammation and Fever, occasioned by the constant Pain, and to the Chock, by Consent of the Nerves. To relieve these Accidents not only Bleeding and Clysters are requisite, but also Lenients and Anodynes externally; and such Fomentations as may prevent Mortification, by preserving the natural Temper of the part.

Of a Hydrocephalus.

Hydrocephalus is a watry Tumour of the Head, *Description.* either betwixt the Cranium and the Scalp, betwixt the Cranium and *Dura Mater*, or betwixt the two Meninges.

The Cause is an Extravasation of Serum proceeding from a Weakness of the Vessels, or the Quantity and Qualities of the Serum; the former easily giving way to the Pressure of the Humour, and the latter either distending the Vessels till they burst, or by their glutinous Parts clog up the Glands, and distend some Vessel or another till it bursts, which is very probable, since a glutinous Matter is frequently found about the Vessels under the Basis of the Brain, and the Origin of the *Medula Spinalis*, the *Nates* and *Testes*, and the *Glandula pinealis*, extending it self to the Ventricles of the Brain, as Mr. *Wiseman* hath observed.

The Signs of Hydrocephalus, if the Humour *The Dia-* be under the Scalp, is a Tumour of the whole. *gnosticks.* If the Tumour be œdematous, it easily pits, but it does not fill up so soon again as if it be a waterish

rish Serum. In the latter, the Face is swelled and pale, and the Eye-lids; and sometimes bloody and shining. In the Increase, a Tumour is thrust out much like a Wen, but appears to be full of Water by its Fluctuation. When it lies between the Pericranium and the Cranium, the Skull is bare and the Humour fluctuates. If it be contained betwixt the Cranium and the *Dura Mater*, the Sutures are very loose and open. When it lies under the *Dura Mater*, the Membrane tumifies, and is often thrust out betwixt the Sutures.

The Pro-
gnosticks.

Those that are subject to this Distemper are usually healthful, and subject to Convulsions, and the Rickets which often terminate in the King's Evil. When the *Dura Mater* is thrust out betwixt the Sutures, it is mortal, and those next the Cranium are very dangerous. Likewise if the Tumour spread over the whole Head, it is more difficult to cure than when it only appears in one part only.

The Cure.

In the Cure of this, the same Method, in respect of Internals, is to be observed, that hath been proposed in the Chapter Of *waterish Tumours general*. Externally strong Discutients are proposed to cherish and recover the natural Temper of the Part, as well to discharge the Humour, as *Sumach. Thym. Absinth. Majoran. fol. beton. salu. fl. samb. cham.* to which may be added, *fl. ros. rubr. bal. sumach. N. Cypress. bac. myrt. gland. querc. gal. &c.* Astringents by contracting the Skin likewise assisting the Expulsion of the Matter, which may be boiled in Wine or a *Lixivium*.

If stronger Applications are requisite, you may add *Sulph. viv.* or *alumen*, or embrocate the Part with the following, *R. ol. Laur. aneth. āā. ʒij. spica, de Lateribus āā. ʒj. Sulph. viv. sal. commun. alum. ust. āā. ʒss. ciner. fabar. siliquar. āā. ʒij. rebinth. Styracis calamit. āā. ʒj.* which with the

dition of Wax may be made into a Cerot. Or, R
pulv. *summit. Origan. Absinth. fl. ros. rubr. balust. aa.*
3j. *sal. commun. 3vj. Mel. commun. q. s. f. Cataplasma.*
Emp. de Beton. de Baccis Lauri, cephalic. Diapsulph.
or *Sinapi*, are also proper. Fontanels behind the
Ears, or in the Neck, are also convenient.

If the Tumour abate not by the Use of Internals *Apertion,*
and Discutients, and Astringents, it is convenient *when neces-*
to discharge it by Apertion, still continuing the Use *sary.*
of Discutients to preserve the Temper of the
Parts. If the Tumour be particular, and of a long
standing, and rise from a small Basis, you may make
Ligature and cut it off; and if it rise from the
skull, Extirpation is to be forborn.

CHAP. XXI.

Of the Scab and Itch.

The Difference of the Causes.



THE Scab and Itch are too well known to want any Description. As to the Cause, it chiefly depends on the depraved Disposition of the Serum of the Blood, but in some Bodies in some measure is occasioned by the particular Formation of the Skin; and frequently is occasioned by infection.

The Temper of the Blood sometimes the Cause.

It depends on the depraved Disposition of the Serum of the Blood, when the Serum is too much impregnated with vitious Salts; by which means the natural and due Fermentation of the Blood is perverted, the superfluous Salts depressing too much the volatile, saline, and sulphureous Parts, so that the Serum is not digested and rarified as it ought to be. The Serum of the Blood being thus rendered too thick, as well as too salt, when separated in the cutaneous Glands, is not fine enough to pass off by the Pores of the Cuticula, so that the saline Humour detained betwixt the Cutis and Cuticula, acquires a further Degree of Acrimony and corrodes and ulcerates the Superficies of the Cutis, and separating the Cutis also, forms abundance of small Pustules, and at last, the thinnest part of the Serum being evaporated, the grosser part united with the superfluous Salts produce dry Scab; and as new Serum is still discharged, the thinnest part runs off in a Gleet, or evaporates, and the grosser part along with the Salts add

the Increase of the Scab; which Salts still corroding the Cutis, enlarge the Ulcerations.

But in some Bodies the particular Formation of the Skin may be partly the Occasion; as when the Glands of the Cutis are too lax and open, and separate the Serum too thick, so that it is apt to coagulate as soon as extravasated, or otherwise is not fine enough to pass through the Pores of the Cuticula; so that the Humour thus lodged betwixt the Cuticula and Cutis likewise grows more acrimonious, and corrodes the Cutis, and forms a Scab; but in this Case the Serum is likewise too fine and thick.

The particular Formation of the Skin, how it contributes to the Cause.

When this Disease happens to be occasioned by Infection, there is more or less of a Pre-disposition of the Serum of the Person infected, since some are more easily infected than others, and some whose Blood is very good will scarce be infected at all, as for the manner how this Disease is transferr'd by Infection, we suppose as reasonable, that that fine Humour which is lodged in the Skin of the Person the Infection is derived from, having acquired a greater Degree of Depravation by its Continuance there, when it affects the Skin of another Person, the corroding Salts running through the Pores of the Cuticula impregnate the Serum upon the Surface of the Cutis with their acrimonious Parts, and affecting the nervous Papillæ with their pungent Particles, cause an itching Pain; which exciting Heat occasions a quicker Separation of the Serum, and faster than it can be discharged by the Pores of the Cuticula, so that it separates it, and rises small Pustules; where the Serum impregnated with this heterogeneous Salt grows more corroding, ulcerates the Cutis, and by Degrees insinuating themselves through the Pores of the Vessels, they communicate their depraved Qualities even

How it is promoted by Infection.

The Cause of the itching Pain.

ven to the Blood it self; and thus by degrees the whole Mass becomes tainted with a vitious Ferment, and the Serum of the Blood depraved.

As for the itching Pain that attends this Disease, it proceeds from the Pungency of these depraved Salts affecting the nervous Papillæ of the Cutis.

Differences. This Disease differs as the Cause is more or less violent, or as it is general or particular. That which is occasioned by Infection is not dangerous but if it proceed from an habitual Indisposition of the Humours, when retained it often occasions Fevers, Epilepsies, and other ill Accidents; and neglected, at the last corrupts the Blood so much as to be fatal.

The Cure. In the Cure of this Distemper, a good Diet is to be prescribed, avoiding all things that are sharp or salt. And their Drink, if made of Mault, may be altered with medicinal Herbs, as *Succory*, *Agrimony*, *Pimpinell*, *Harts Tongue*, *Fumitory*, &c. Or *R. fol. Agrimon. Origani, Veronicae utriusq; aa. M. ss. rad. enul. Camp. Scorzon. hirundinar. aa. Sij. Mac. Cin. aa. ʒj. coq. in Cerevis. tenuis lbvj. et dimid.*

Evacuations are also requisite, partly to discharge part of the vitious Serum, and partly to leave more room in the Vessels for Correctives to alter the remaining part; and likewise for Liquors to dilute the Serum, that it may the better be discharged through the Pores of the Skin, or other convenient ways.

Bleeding necessary.

And first Evacuation is to be made by Bleeding which is to be repeated when the Disease is stubborn, and of long standing, as occasion requires.

Purging, when requisite.

The Serum of the Blood being attenuated and diluted, by Liquids received into the Vessels, in the room of those discharged by Venesection, it will be

convenient to make a farther discharge by purging, to which purpose *Decoct. Sennæ Geron*, or *Epithym.* may be made use of: Or, *R Summit. Fumar. M. j. rad. cichor. polypod. Lapath. acut. āā. ʒj. fl. trium cordial. M. ss. Epith. ʒij. fol. Sen. iij. Rhub. incis. & nodulo inclus. ʒj. Liquorit. ʒij. sem. fœnic. dulc. ʒiij. coq. in aq. font. ad ʒij. Colatur. add. Syr. Ros. cum Agar. ʒi. ss. Mann. ʒij. pro tribus Dos.* If the Body be strong, and the Humours gross, more powerful Purgatives are convenient, as *Pil. ex. duob. de Agaric. Coch. Rez. Jalap. & rad. Rez. Scammon. &c.* which will be more effectual, if xv. or xx. Grains of *Merc. Dulc.* be added, it disposing the Humours the more easily to be discharged, and also corrects the Acrimony of the ill disposed Salts.

But besides Bleeding and Purging, alterative Medicines will be also proper, and such as dispose the saline Particles to go off by Urine or Diaphoresis; especially if the Disease depend upon an habitual ill Crasis of the Blood; proper Alteratives are antiscorbutick Electuaries and volatile Salts, which attenuate and subtilize the vitious Salts, and render them thin enough to pass through the Kidneys, or the Pores of the Skin; also a Decoction of *Sarsaparill. Lign. Guaj. Saffaphras. sant. rubr. Citrin. or alb. Ros. Eb. CC. &c.* may be conveniently drunk Night and Morning in Bed, which will dispose the Humours attenuated by Evacuation, and Alteratives, to go off by Diaphoresis.

External Applications, proper in these Cases, are of several kinds, as *R rad. enul. camp. Lapalt. āā. ʒij. rad. bryon. ʒj. Sum. fumar. abrotan. āā. M. ʒj. fl. ros. rubr. M. j. cort. granat. Sumach. āā. ʒss. Vitr. alb. ʒiij. Sal. petræ ʒij. alum. Sulph. viv. āā. ʒss. coq. in aq. font. ʒiv. Colat. pro fotu*, which consisting chiefly of Astringents and Discutients, we suppose that the Astringency binds up the excre-

tory Vessels of the cutaneous Glands, so that the Scabs are perfectly dried up and fall off, whilst the discutient Medicines prevent Obstructions in the Vessels of the Cutis, (which might be occasioned for want of a due Separation of the Serum in the Glands,) by rarifying the Humours so that they might pass more freely through the Veins. After the use of the Fomentation one of the following Ointments may be made use of: R̄ Unguent. Rosat. ℥iij. Bals. peru. ℥ss. arcan. corallin. ℥ij. Or, R̄ Sev. aguin. ℥iv. ol. amygd. Dulc. papav. āa. ℥j. ol. hyoscyam. per express. ℥ij. Ung. Triticæ Vigonis ℥j. alum. ust. zinzib. āa. ℥ij. Oliban. ℥j. Croci ℥ij. ceræ q. s. which by their balsamick and drying Qualities heal the Ulcerations of the Cutis, and promote the Generation of a fresh Cuticula. How Balsamicks are beneficial in healing of Ulcers, and the reason why Astringents cicatrize, shall be explained in the following part of Ulcers.

In strong Bodies, and where the Humour is stubborn, *Mercurius Vivus* with *Axung. porcin.* or *Unguent. alb.* may be convenient, which may be made more grateful by adding a few drops of Oyl of *Rhodium*; but Care must be taken to purge after the Use of Mercurial Ointments, to discharge the Serum impregnated with the Mercurial Particles.

If the Disease be occasioned by Infection, and hath but moderately affected the Skin without tainting the Blood, *Sulph. viv. in axung.* is sufficient: Or, R̄ Unguent. Nutrit. ℥ij. Unguent. popul. ℥j. Styr. liquid. ℥j. Cinnab. ℥iij. Or, R̄ Unguent. popul. ℥j. Unguent. Rosat. ℥ij. Ori. ℥ss. M. If the Hands or Fingers be chopped, R̄ Unguent. rosat. in suc. Aurant. lot. ℥iij. ceræ alb. ℥vj. *Misceantur super ignem, addend. piper. alb. zinzib. pulv. q. s. f. Cerat.*

Chap. XXI. *Of the Scab and Itch.*

133

Cerot. The Oyntment and the Wax cool the extraordinary Heat and soften the cruſted Parts, as well as ſtop the Evaporation of what tranſpires, whiſt the Spices warm the cutaneous Glands, and cauſe them to diſcharge a greater Quantity of Serum, by which means the vitious Salts are diſſolved, and the cruſted Parts moiſtened and relaxed again.

If the Diſeaſe will not yield to the forementioned Means, a Decoction of *Sarſaparill. Lign. Guajacum, Saſſaphras, ſant. omn. Raſ. Eboris, C.C. Liquorit. &c.* will be neceſſary, which may be uſed for Common Drink, purging frequently as occaſion requires, and repeating the Uſe of antiſcorbutick Alteratives betwixt Purging.

C H A P. XXII.

Of Lepra or Elephantiasis.

Description.

LEPRA is the highest Degree of the Itch, where the Scab grows dry, and breaks out in the Form of white Scales, sticking one to another; if they happen to be pulled off, which is with Difficulty, the Skin appears red, and they soon return again.

The Cause.

In this Disease the Serum of the Blood is very much impregnated with a vitious Salt, so that the Blood is not able to digest and attenuate it sufficiently, the crude saline Particles depressing the more volatile, and preventing them from exerting themselves, by which means the Serum is not only too thick by the Mixture of too much Salt, but also its own Crudity. The Serum thus depraved, as long as it continues in Circulation by a constant Agitation of its Parts, retains its Fluidity; but when separated by the Glands of the Skin, and being too thick to transpire through the Pores of the Cuticula, for want of its usual Agitation it presently grows thick, and the thinnest Part evaporating, forms a dry salt white Scab, the saline Humour pricking the nervous Papillæ, and causing an itching Pain; being very troublesome and difficult to cure.

The Cure.

In the Cure, the same Internals are requisite as in the Itch, only Purging is to be repeated every third or fourth Day, or as oft as the Strength of the

Chap. XXII. Of Lepra or Elephantiasis. 135

the Patient will permit, with a convenient Quantity of Calomel, which if given in a Bolus over Night, may dispose the Humours to go off the better by Purging in the Morning.

Externally Fomentations are proper, which may be made of the following Ingredients, as *fol. & rad. Althææ. lapath. acut enul. Camp. bryon. fol. Scabios. Majoran. fumarie, bac. Laur. Junip. sem. Staphisagrie sinap. alumen. or Vitriol. Hung.* by which the Scab is made more dry and apt to fall off, the Allom and Vitriol adhering to them, whilst the emollient Discutients, by their warm and penetrating Effluvia, heat and increase the natural Ferment of the Humours in the Cutis, and cause a greater Quantity of Serum to be separated by the Glands, which helps to separate and cast off the Scab, by interposing betwixt it and the Skin.

After Fomentation Mercurial Oyntments are proper, as, *Unguent. enulat. cum Mercur. or axung. ʒij. Mercur. viv. ʒß. Misceantur probè mortar. Vitreo. addend. ol. Rhod. gut. x.* by which the vitious Salts are not only corrected in the Glands of the Skin, but the Serum attenuated, and separated more plentifully, and the Scabs also loosened by the greasy parts of the Oyntment.

If by frequently repeated Evacuations, and the Use of Alteratives internally, and Medicinal Diet Drink, &c. the Disease is so stubborn as still to continue, it will be convenient to cleanse the whole Mass of Humours, by a continued Salivation; which may reasonably be raised, partly by Internals, and partly by Uction. For if it be begun by Internals, the gross Humours contained in the Mass of Blood will be more easily disposed to go off by Salivation, before the Salts lodged in the Cutis are mixed with them, but when Sali-

*Salivation,
when ne-
cessary.*

vation is begun, and the Serum of the Blood a little cleansed, by external Uñction the vitious Salts in the Cutis will be more readily diluted, and the ill Ferment lodged in the Glands of the Skin corrected, so that there will be less Danger of a Relapse. After Salivation, Purging will not only be necessary, as in other Cases, but also Diaphoreticks of *Sarsaparil. Lign. Guaj. &c. Sassafras. rad. Chin. sant. omn. Raf. C.C. Eb. Liquorit. &c.* the first cleansing both the Stomach, Intestines, and Blood of the Remains of the Distemper, and the Mercurial Parts; and the latter, by Diaphoresis, washing out any vitious Ferments that may be lodged in the Glands of the Skin, or betwixt it and the Cuticula.

CHAP.

C H A P. XXIII.

Of a Gutta Rosacea.

Gutta Rosacea is a Number of *Description.*
 hard Pimples or Tubercles affect-
 ing the Face in several Places, as
 the Brows or Nose, with a fiery
 itching Pain; if scratched they look
 red and increase.

It is occasioned by a gross hot Serum which ob-*Cause.*
 structs and tumifies the Glands of the Cutis, by
 which Tumours the nervous Papillæ being compres-
 sed, produces an itching Pain. This Disease hap-
 pens commonly to those that not only inflame their
 Blood by Drink, but also by disordering the natu-
 ral Ferment of the Stomach; for want of true Di-
 gestion, Crudities are heaped up in the Mass of
 blood, which being thickened in the Glands of
 the Cutis in the Face, by the external Air to which
 they are exposed, it distends their Vessels and tu-
 mifies them, whilst the hot Humour that attends
 this Phlegm, affecting the nervous Papillæ, (which
 are likewise compressed by the Tumours) causes a
 burning Heat.

The Signs of a Gutta Rosacea, are a flushing *The Dia-*
 Heat, with red Pimples and Tubercles, which in *gnosticks.*
 time become blewish, or of a more dark red Co-
 our.

This Disease is hard to cure in the Beginning, *The Pro-*
 the Phlegm which tumifies the Glands being ren-*gnosticks.*
 dered tough by the hot Serum it swims in; and if
 they be of long Continuance, grow large; adventi-
 tious

tious Phlegm joyning that which was lodged in the Part, the thinner hot Serum flowing through the distended Vessels, as the uncoagulated Blood in the Veins, does betwixt the Vessels and Coagulum in a Varix. When they grow big, Excreffences rise from them which are never removed.

*The Method
of Cure.*

In order to the Cure, a regular Diet is to be observed, which is to consist of such things as are of easy Digestion. Drinking is also to be regulated, forbearing such Excess as may inflame the Blood, and pervert Concoction in the Stomach, by over-heating and destroying the natural Ferment.

*By Inter-
nals.*

But besides a due Regimen in eating and drinking, Evacuation by Bleeding is convenient; and after that, lenient purgative Apozems, as, R. *Cichor. Acetof. aa. M. j. senne ʒiij. Tamarind. fl. trium. cord. aa. P. j. Liquiritiæ ʒij. sem. fenn. dulc. ʒj. coq. ad ʒiv. in Colatur. dissolv. Rhei. aq. Cichor. infus. ʒj. syr. Ros. solut. ʒj. ss. aq. Coch. j. M. Or, R. rad. oxylapath. acetof. Cichor. graminis aa. ʒj. fol. endiv. famar. dent. leon. cap. Ven. aa. M. j. sem. quat. frig. Maj. aa. ʒiij. Liquirit. ʒss. senne ʒij. Tamarind. ʒj. Galang. ʒj. Sant. citrin. ʒj. coq. ad t̄bj. Colat. adde Expressione ʒss. rhab. in prædict. decoct. syr. de pomis purg. j. f. Apozem.*

When Evacuation hath been made by Bleeding and Purging, convenient Alterations are to be made use of to restore the Blood to its natural Crassness as Chalybeats prepared with Tartar and cooling Antiscorbuticks.

*What is to
be done ex-
ternally.*

As to Externals, if the Face at the first be only affected with a flushing Heat, and some small Pimples, Decoct. *Malvæ, bismalvæ violar. sem. Verb. psylli*, &c. and a Posset made of the Juice of Lemmons may be sufficient; the emollient Discutient softening and dissolving the Matter of the Tumour

and the other contracting the Parts to promote its Expulsion, and to confirm the Tone of the Parts. But if the Tubercles are of longer standing, and hard, stronger Emollients are to be used, as, *rad. sigil. solom. cucum. agrest. rad. lil. sem. lini, fœnug. &c.* or *Cerot. de Althæa* may be applyed. And if they suppurate, discharge the Matter by opening them, and then deterge and cicatrize, using the following to smooth the Skin: *℞ Camph. ʒj. ol. amygd. dulc. ʒiij. M. in Mortar. deinde add. ol. Tart. per deliq. ʒij. Vitel. Ovor. N^o. ij. Sacchar. Saturn. ʒss. aq. flor. abar. sigil. solomonis aq. Ros. āa. ʒiij. or lac. Virgin.* thus made. *℞ Lytharg. auri ʒiij. acet. opt. ℥bj. coq. & dimid & colat. add. salis com. in aqua font. sōt ʒiv. aq. Rosar. ʒvj. Sal. Armon. ʒj. M.* By the use of which Astringents, the Glands of the Skin are all equally contracted, so that the Cuticula lies smooth upon it; and the Fibres of the Vessels are so strengthened and contracted to their natural tone, so that the Parts are not so subject to receive fresh Influx of the Humours, if any should yet remain in the Mass of Blood.

CHAP. XXIV.

Of Flatuous Tumours.

Description.

Emphysema is a light puffy Tumour easily yielding to Pressure, and so rising again.

Differences.

The Differences are, either as they are pure, proceeding only from Wind or mixed with a phlegmatick Humour; they differ also as they are internal or external: Internally they come under the Care of Physicians; Externally they happen upon the Eye-lids, and about the Joynts, and other membranous Parts, as the Scrotum and Navel, where they form a Hernia Ventosa, the Peritonæum being first relaxed, and not timely prevented, a Hernia Intestinalis ensues.

The Cause.

As to the Cause, it evidently appears to be windy Vapour, which is occasioned by a Fermentation of the nitro-sulphureous Parts of a crude Humour, which by an accidental Ferment are rarified and expanded, and assumes the Form of a Vapour; the sulphureous Particles being first put in Motion by some accidental Heat, are by the Motion inclined to separate themselves from one another and fly away, but being confined by the membranous Parts, their Motion is reverberated and reflected by that Resistance, by which means they acquire the greater Force; as the subtle sulphureous Parts of Fire, endeavouring to extend their Spheres are struck back and confined by circumambient Cold and so the internal Heat is increased by a Reverberation.

eration of those subtle Parts, which in open Sun-
 ine, or warm Air, where there is little Nitre to
 sist, they easily dissipate themselves and fly a-
 way. Now the sulphureous Parts of this Liquor
 being beat back, and acquiring greater Force,
 degrees rarify and expand not only themselves,
 but the nitrous Parts also, and a thin Vapour ex-
 tends the membranous Parts, which easily give way
 to them, and so form the Tumour. Thus in the
 Spring, when by the Heat of the approaching Sun
 warm sulphureous Vapours are mixt with the ni-
 trous Parts of the Air, they ferment together, and
 occasion violent windy Expansions; and the like
 happens in Autumn, when the nitrous parts of the
 Air begin to involve and check the hot sulphure-
 ous parts of the Air, which they are not able to
 render from expanding. This accidental Ferment
 of the Body often happens to be excited, and first
 stirred up, in a Humour aptly predisposed, by the
 natural Heat of the Body; and often by an exter-
 nal Accident, as a Blow, by which the Part ac-
 quires an additional Heat, and also weakens the
 parts to give way, as well as incline, a predispo-
 sed Humour to exert it self.

These Tumours, if external, neither discolour *The Diagno-*
 the Skin, nor are painful, except they affect the *sicks.*
 periosteum, and lie deep amongst the Muscles; but
 their Increase is always sudden, and likewise their
 diminution.

Flatuous Tumours of the great Joynts are very *The Pro-*
 difficult to cure, and not to be opened without a *gnosticks.*
 great deal of Caution; but those which affect not
 the Joynts may be opened any time, and are easily
 cured.

In the Cure Internally, purging Medicines may *The Cure.*
 be convenient, and such Alteratives as may streng- *Internally.*
 then the Stomach, and help Digestion, and like-
 wise

wise corroborate the Crasis of the Blood, that the Serum being better digested, may digest those cruder Parts which are subject to create windy Expansions.

Externally. Externally such Applications are proper as may disperse, and digest the nitro-sulphureous parts of that Vapour, and by separating their Parts, put an end to their united Expansion, as *sum. Majoran. brotan. hyssop. origan. Rutæ rorismarin. bac. Lauri. Junip. sem. anis. fœtic. carui, cumin. &c.* with which Fomentations may be made in a *Lixivium* or Wine, or the Part may be embrocated with the following
R. ol. Rut. sambuc. cham anethi āa. ʒj. ol. Marjori. Carui. āa. ʒj. M. or, ol. sulph. Terebinth. Empl. de bac. Lauri, Cumin, &c. may be applied; or, *fœcis cere nov. lbj. ʒ. micæ pan. furfurac. lbj. ros. rubr. ʒj. coq. in vino albo deinde contund. & ad piper. caryophyll. zinzib. āa. ʒij. ʒ. sem. Anis. cumin. fœnic. ammeos, āa. ʒʒ. ol. Cham. Aneth. Rut. āa. ʒ. M. f. Cataplasma.* These warm Discutients separate and divide the nitrous Parts by their subtle Effluvia and so disperse them. But if by cold Application and good Bandage, you condense and compress these Vapours, the Tumour soon disappears. But if the Tumour be in a Part where it may be fast, the speediest way of Cure is by opening it. If the Tumour grows painful and inflamed, Anodynes are to be made use of.

CHAP. XXV.

Of Hernia.



Hernia is defined to be a Tumour made *Definition.*
by the Interposition of a solid Body,
as when the Omentum or Intestins
are interposed betwixt the Coats of
the Peritonæum and Scrotum, or o-
ther adjacent Parts.

If the Rupture be at or near the Navel, by an *Differences.*
extension of the Peritonæum, and the Tendons of
the oblique and transverse Muscles, it is called
Exomphalos; but if the Omentum or Intestins
fall down into the Scrotum, that Tumour is pro-
perly called a Rupture: But other Tumours, from
their Likeness, are called by the same Name, as
Hernia aquosa, which is occasioned by Water;
Hernia Carnosa, which is a Sarcoma; Ventosa,
from Wind; and Varicosa, being a Tumour of the
corpus Varicosum.

But Hernia Scroti and Exomphalos, being most
properly called Ruptures according to the Definiti-
on, I shall here only consider them. And first,
When the Omentum or Intestines fall quite down
into the Scrotum, it is called a perfect Rupture,
but when they fall only part of the way, it is cal-
led a Relaxation; the Peritonæum being as yet
whole, and only extended.

As to the Cause of a Rupture, it may be occa- *The Cause.*
sioned several ways. In Children it often happens
by vehement crying, and holding their Breath; the
parts being tender and moist, so that they easily
give

give way to the Weight and violent Pressure of the Guts. In People of riper Age and grown Bodies it may be caused by hard Exercise, Riding, Leaping, Vaulting; Hallowing, carrying of any great Weight, or by a Blow or Fall, or any other Accident that may force the Intestines too violently upon the Peritonæum, so much as to extend or break it, a Rupture always following a Relaxation of that Membrane. In very fat People the Weight of the Intestines sometimes is the Cause of a Rupture. In Women, often hard Labour is the Occasion of a Rupture in the Groin, which is from thence called Bubonocœles.

*The Diagnosis
Sicks of a
Hernia.*

The Signs of a Hernia, whilst it is only a Relaxation, is a soft Tumour in either Groin, or any other Part of the Belly, without Inflammation or Pain. This Tumour soon shews it self if the Patient stand, but if he lie down some time on his Back, it presently disappears again.

Of a Hernia Intestinalis.

The Signs of a Hernia Intestinalis, when a Rupture of the Peritonæum is made, are a sudden Tumour in the Inguen or Scrotum, by the falling down of the Intestins or Omentum. If a Blow or Fall was the Cause of it, it is painful, and sometimes Blood is extravasated. This Tumour may be distinguished from a Hernia Carnosa, by laying your Hand upon the part where the Peritonæum passeth out of the Abdomen, the Patient coughing or sneezing, for by that means the Motion of the Gut will be perceived. In Women, if this Disease be neglected, it forms a round Tumour near the Pudenda.

Of a Hernia Omentalis.

In a Hernia Omentalis, the Tumour is unequal, soft and slippery, and always of the same Bigness, whereas in a Hernia Intestinalis it is greater or less as the Patient is full or empty, a painful Cholic attending

attending it, and if not relieved in due time, a Fever and Vomiting.

Hernia Umbelicalis is apparent, by the Protuberance in the Navel; whether it be intestinal or omental, and may be distinguished the same way, as in the Scrotum. *Of a Hernia Umbelicalis.*

Hernia Ventosa affects the Belly in several Places, and may be known by the Quickness of its Increase. It is common in Children, the Wind lying betwixt the Tunica Vaginalis, and forming a Tumour either long or round, as it is confined to the Cavity which contains the Testicle, or extends itself to the Production. *Of a Hernia Ventosa.*

A Hernia, by Relaxation, is less dangerous than when it is confirmed by Rupture. In Children and young People under twenty it may be cured, if reduced in time, but in old People it is only to be relieved by a Truss. If it be long before it is reduced, violent Pain, Cholick and Fever; and by stopping the Passage of the Excrement, at last, Inflammation, Gangrene and Death ensue. But if the Rupture be large, and of long Continuance, the Excrements pass freely through the Intestines without any ill Symptoms. *The Prognosis.*

Hernia Umbelicalis, if neglected, is attended with the like Accidents as that in the Scrotum.

A Hernia Omentalis is not dangerous, but hard to reduce, and to keep up when it is reduced, being soft and slippery. In Children and sanguine constitutions it is easily cured, especially if the Tumour be small, and only in the Inguen.

A Hernia Ventosa is more easily cured, especially in Children, who are most subject to it.

In the Cure of a Hernia we are to consider, first whether it be intestinal or omental, also its Continuance, and whether it be only a Relaxation or a perfect Rupture. *The Cure.*

L

If

Reduction,
and what
Applicati-
ons are pro-
per after-
wards.

If the Intestines be fallen down into the Scrotum, the first thing to be done is Reduction; in order to which, the Patient is to be placed upon his Back, with his Head downwards, and his Hips raised up, drawing his Heels towards his Hips; then with warm Cloths moderate Pressure is to be made, and gradually; Care being taken neither to hurt the Intestines nor the Testicles. If the Excrements in the Intestines hinder the Reduction, the following Clyster may be given, *R. rad. & fol. Althææ, fol. malv. bet. parietar. āā. M. j. Cham. melil. sambuci āā. M. ss. sem. Lin. fœnugr. āā. ʒvj. sem. anis. fœnic. āā. ʒj. coq. ad tertias, Colat ʒviij. dissolv. sacchar. rubr. ʒij. mel. rosat. Colat Diacatholicon āā. ʒj. Hieræ picræ ʒvj. ol. Cham. lior. āā. ʒij. Sal. commun. ʒij. M. f. Enem.* which is to be repeated as oft as convenient, till the Intestines are empty'd; applying Stupes wrung out of the remaining part of the Decoction, and, if the Faces are very hard, the decocted Ingredients may be applyed in the Form of a Cataplasim, with *axung. porcin. Unguent. de Althææ;* or *ol. lil. &c.* If stituous Vapours hinder the Reduction, the Part is to be fomented and embrocated with Discutients. The Intestines being thus emptyed, and the Rupture reduced, the next thing to be done is to apply proper binding Agglutinatives to contract and confirm the Parts relaxed in the Rupture, as, *Emp. ad Herniam,* or *R. Mastich. Thur. Aloe, sang. Dracon. farsacol. bol. Armen. gyps. gallar. āā. ʒij. ichthyocoll. & taurocoll. in aceto solut. āā. ʒij. malaxatur. & f. Emplast.* which being applyed with good Truss, may keep the Intestines up, and the Rupture firm, whilst the relaxed and ruptured Parts adhere and agglutinate.

What is to
be done af-
ter Redu-
ction, and
proper ex-
ternal Ap-
plications.

The Rupture being thus reduced and secured in order to the Cure the Person is to observe a convenient

convenient Diet, and a due Regimen in the way of Living. Their Diet ought to be such as may afford good Nourishment, and not subject to breed Crudities, and sparing in Quantity, that the Intestines being neither too much crowded with Excrements or Flatulencies, may press the less upon the ruptured Parts. Their Drink ought also to be good, and such as may help Digestion, and prevent Crudities.

Rest also is convenient in this Case, there being the less Pressure made upon the Part affected. Exercise is also to be forbid for the same Reason, for the Body being in an erect Posture, the whole Weight of the Intestines must needs force upon the Rupture, and hinder the Parts from uniting. The Body is likewise to be kept open with Clysters, that there may be the less Occasion for straining when the Patient goes to Stool. If the Body abound with crude and indigested Humours, purging will also be necessary to discharge them, that the parts being kept clear and free of Crudities, may the better be disposed to unite again, and grow firm and strong.

To promote the Union and Contexture of the Parts again, *Agglutinatives* are to be made use of, which are simple or compound. The simple are such as have a moderate Astringency, as *Consolid.* *aj. & min. quinquifol. Equisetum, sanicula, auricula Ursi, pilosella, gacea utrisq; sigil. solomonis, ormentil. Osmunda Regalis hippoglossum, lunaria minor, perfoliata, herniaria, Herba Trinitatis, cort. Cypress, Granator, &c. Osmunda Regalis, Hippoglossum, and Gomsfry Roots, herniaria and perfoliata* are esteem'd as specifick in this Disease, and may be either given in Powder, or mixed with red Wine, or drunk as Tea.

Compounds may be made use of as followeth,
 ℞ *Cons. ros. rub. symphit* āa. ʒj. *fol. salv. acori* āa.
 ʒss. *troch. de Carab. vel de Spodio vel de Bol.* ʒiij.
cum q. s. syr. de ros. sic. f. Elect. Cap. 9. N. *Mosch.*
boris medicinalibus, drinking six Ounces of the fol-
 lowing after it, ℞ *Herb. Alchimil. ophiogloss. num.*
mular. fragror. Auric. Muris, Veronica, Artimisia
Scolopendriae persoliat āa. M. j. *Virg. Aur. M. j.*
rad. tormentil. cichor. bistort. vincetoxit. hirundinar.
 āa. ʒj. *persoliat.* ʒss. *cort. citri* ʒj. *sem. Anis. fa-*
xic. āa. ʒiij. *Coriand. præp. Cinam.* āa. ʒj. *flor. bo-*
rag. bugloss. āa. ʒij. *prunel. Sylvest.* ʒj. *Galang.* ʒij.
passul. enucleat ʒj. *M. infund. in q. S. Vini optim.*
Colat. reservetur pro usu; which by their Astringe-
 ncy incrasiate and dry up the superfluous Sero-
 sities, and dispose the Parts, not over-burthened
 with superfluous Moisture to grow together and ad-
 here the better.

Incision,
when re-
quisite, in
order to Re-
duction.

If a Rupture, by the long Continuance in the
 Scrotum, cannot be reduced by the before-mentio-
 ned Methods, the Intestines being too much disten-
 ded with Fæces or Flatulencies, so that the Life
 of the Person be in Danger, it may not be unrea-
 sonable to lay the Production of the Peritonæum o-
 pen whilst the Patient enjoys some Strength, and is
 able to bear it. In Order to this, the Patient is
 to be laid flat upon his Back, and bound down
 then Incision being made upon the upper part of
 the Scrotum to the Production, that is also to be
 divided, Care being taken neither to hurt the In-
 testines nor the Omentum; then pass a Capula
 into the Cavity upwards, under the Process of the
 Peritonæum, clear of the Intestines, and make an
 Incision large enough to put your Finger into the
 Scrotum, to raise the Intestines and Omentum
 which are then to be reduced into the Cavity of
 the Abdomen. This being done the Wound mu-

be stitched up, taking so much of the Production up as may hinder the Relapse of the Intestines, and then dress up the Wounds with Agglutinatives, as, *Bol. Armen. Sang. Drac. Thus, Aloes, cum alb.* vi. then dress with the following Digestive, *R. Vitel. ovor. N^o. ij. farin. tritic. Thuris aa. q. s.* after deterge with *Mundif ex Apio*, and incarn with the following, *R. Terebintb. sic. ℥iij. Thuris Mastich. sem. fenugrac. aa. ℥ss. ceræ ʒj. ol. hyperic. 3x. M.* and then cicatrize.

A Bubonocèle in Women is to be cured, after Reduction by Plaisters and Bandage, as in Men. *Of a Bubonocèle in Women.*

A Hernia Umbelicalis is likewise to be reduced, and then retained with Agglutinatives and Bandage. If for want of Care in time the Skin grows thin and mortify, dress accordingly, and after the Separation of the Eschar, stick the *Peritonæum* close with the Ulcer, and then digest, incarn and cicatrize, assisting the part afterwards with good Bandage. *Of a Hernia Umbelicalis.*

In Children Ruptures are easily cured, if Care be taken to keep on their Trusses, applying *Emp. de Hem.* and *de bol.* over the part with compress; having a due regard to Temperament of the Body, which being in Children naturally too moist, is to be obviated by proper Internals as above directed. *Of Ruptures in Children.*

C H A P. XXVI.

Of the *Hæmorrhoids*.

Of *Varicose*
Tumours of
the *Hæmor-*
rhoids.



AVING treated of *Varicose* Tumours in general, above in the Chapter of *Varix*, we shall proceed to those which more particularly belong to certain Part, *viz.* the *Varicose* Tumours of the *Venæ hæmorrhoidales*; these Vessels sometimes only tumify and extend, but sometimes they break and void Blood. The Vessels subject to these Tumours are either internal or external: The internal are the *hæmorrhoidalis interna* which receives the Blood from the *Rectum*, and the Parts about the Anus, which is brought there by the *Arteria mesenterica inferior*, and this is the Vein which is so frequently subject to bleed; the external is a Branch of the hypogastrick Vein, and receives the Blood brought to the Anus and Muscles of the *Rectum*.

The Cause,
either from
the Disposi-
tion of the
Humours.

As to the Cause, they depend either on the natural Weakness of the Parts, which makes them apt to give way to the Impression of Humours, or on the ill Temper and depraved Disposition of the Humours themselves, by which the natural Temperature of the Parts is destroyed, and the Fibres relaxed so that they give way to the Impression and Reception of those Humours which are not only superfluous in Quantity, but depraved and vitiated in Quality. If these Parts happen to be weak, and the parts of the Blood and Serum gross, they are subject to Tumour, but when those Humours which

upon the Parts are impregnated with sharp and acrimonious Parts, they not only weaken the Fibres, but corrode and make a Solution of Continuity in the Capillary Vessels, and cause an Extravasation, so that the Vessels frequently bleed.

But besides the Grossness of the Blood, and Acrimony it sometimes acquires, which cause a Tumour or Extravasation. These Accidents may be promoted, and the Parts rendered more lyable to such Diseases; first by the Laxity and particular Structure of the Parts; these Vessels being not equally supported by the Compactness of the adjacent Vessels, which makes them more subject to give way to the Pressure of the Humours contained in them. Secondly, The Blood is more apt to distend the Vessels, they having no Valves to support the Weight of Blood, and hindering it from pressing upon the Extremities of the Vessels. Thirdly, The natural Moistness and Laxity of the Parts by a constant afflux of Humours, makes the Fibres of these Vessels less able to resist the Influx of the Humours contained in them, for which reason they are apt to grow loose and spongy. Fourthly, the Weight of the Intestines, pressing upon the Veins of the Mesentery, obstructs and hinders the ascent of the Blood, which not only makes them more apt to tumify, but the Veins not readily discharging the Blood, or receiving it from the Arteries, there is the greater Force of Humours upon the Extremities of the Vessels, by the Force of arterial Blood, which make them more apt to give way to Extravasation or Tumour.

When the Coats of these Vessels, by a constant Flux of Humours, which by their Grossness obstructs them, and by rendering them lax and apt to distend, promotes that Tumour, grow thick

and spongy, the acrimonious Particles of the Blood insinuating themselves into the Pores of the Vessels, fret and weaken their Fibres, so that at last they give way to the grosser Humours; whilst the tumified Vessels themselves appear blewish, and like a Bunch of Grapes.

Differences. These Varicose Tumours of the *Hæmorrhoidal* Vessels differ, either essentially or accidentally. They differ essentially; First, As the Vessels themselves are only tumified, or as they are attended with a Tumour of the Parts adjacent, or the AdhæSION of some adventitious Substance. Secondly, As they are only tumified without Bleeding, which are called *Hæmorrhoides cæcæ*, or as they not only tumify and distend, but open and bleed, which are called *Hæmorrhoides apertæ*. They differ accidentally, according to their Bigness, Number and Figure, or as they are periodical or uncertain.

The Diagnosticks.

As to the Signs of these Tumours, they are apparent of themselves, it being evident to sight whether the Tumour be a Vein distended, or of any other kind; and it is manifest whether they be *cæcæ* or *apertæ* by their bleeding or not bleeding.

The Prognosticks.

When the *hæmorrhoidal* Veins bleed moderately, they are wholesome, and prevent several Distempers by discharging gross *fæculent* Blood; but if they flow immoderately, they make the Person weak and faint, and subject to a Cachexia or Dropsy, &c. whence it is dangerous to provoke them lest they flow too much; and of ill Consequence to stop them, lest distempered Humours be retained.

If the *Hæmorrhoides Cæcæ* are painful, and not timely remedied, they are dangerous, lest by a Flux of Humours Inflammation and Apostemation be occasioned. Those near the Neck of the Bladder

der are also troublesome, occasioning frequently Inflammation and Strangury.

In the Cure of the Hemorrhoides Caca, since they are occasioned by Coccochymical and ill depraved Humours in the Blood, a convenient Diet is in the first Place to be observed, which is to be regulated according to the Temper and Disposition of the Humours in the Body affected with them; and since the Humour is impregnated with hot and acrid, as well as gross Parts, their Diet ought to be such as may attenuate and dilute, as well as cool and moderate, the inflammatory Humour. And since those that are troubled with this Disease are subject to be costive, which makes it both troublesome and painful voiding Excrements, they ought to make use of such things as may incline and dispose them to a contrary Disposition, which if it cannot be done by Diet it is to be promoted by Clysters of such Ingredients as are emollient and laxative. All salt and sharp things are to be avoided, which would add to the Acrimony of the Humours flowing to the Part, and render them more painful. And as there ought to be a due Regimen in Diet, so their Drink ought also to be regulated as the Circumstances of Nature indicate; and since the Humours which inflame the parts are acrid and hot, it ought to dilute those acrid Salts, and dispose them to go off by Urine or Sweat; to which purpose a Decoction of *Sarsaparil. Guaj. ac. &c.* may be made for common Drink, or by mixing *suc. Lig.* or such like with the foresaid Ingredients, those lenient Pectorals will not only abate the Acrimony of the Humour, their mucilaginous Parts interposing betwixt and dulling the Edges of their sharp Parts, but will likewise prevent the Body from being costive, whilst the other Ingredients carry off the hot diluted Salts by Diapho-

*The Cure,
with re-
spect to the
Humours
within.*

Diaphoresis, and prevent their afflux to the diseased Part.

The Humour being thus checked by proper Diet, and the Body kept open by Clysters, to hasten the Discharge of this acrid Phlegm, which affects the part, lenient Purgatives are also convenient. Revulsion is also to be made, and the Vessels emptied by bleeding, to prevent or abate Inflammation.

With respect to External.

External Medicines proper in these Cases, if the Tumour be external, are such as by their Astringency contract the parts, and by that means not only repel the Humours already lodged in the part, but also prevent the influx of more, as, *R. fol. Plantag. polygon. summ. rub. equiset. āa. M. j. fol. Verbasc. M. ij. sem. lini. ʒij. fl. ros. rubr. Cort. Granator. balust. myrt. āa. ʒvj. coq. in q. s. aq. font. fomentatio.* After the Use of this Fomentation apply a pledgit of *Unguent populeon. cum pulv. ʒij. ust.* which is to be renewed twice a Day.

To ease the Pain.

If the Pain be very violent, it may be relieved by Emollients and Anodynes, as, *R. fol. malv. Verbasc. M. j. fl. hyperic. M. ss. Rad. Cynogloss. sem. lini. fœnugr. āa. ʒvj. sem. Althææ ʒij. coq. Fot. or R. ol. hyper. ʒj. Op. gr. viij.*

What is to be done when they are internal.

If the Piles be internal, emollient Clysters proper to ease their Pain, and to discuss the Humour where Repellents cannot be conveniently applied.

Discutients, when necessary.

When the Humour which produces them is thick and viscid, Discutients which separate and divide its parts, and render it apt to be diluted with fresh Serum, are to be made use of, as *rad. Cistodon. Gladeol. capæ allium. &c.* in the Form of fomentations.

Astringents proper.

If the forementioned Applications are not effectual, stronger Astringents mixed with Discutients

will be proper, to dissolve and attenuate the Humours contained in the relaxed parts, whilst the Astringents contract the distended Fibres, and contribute to recover their lost Tone, as *Bol. Armen. Calx lot. Croc. Mart. alum. axung. porcin. &c.* If the Piles be external, and are not to be relieved by any of the above-mentioned Medicines, and are considerably large and pendent, they may be cut off.

The *Hæmorrhoides Apertæ* are not to be stopped as long as the Patient bears their Discharge without weakening and impairing his Strength, since they discharge a gross phlegmatick Blood which might occasion other Diseases; but if they flow not in a sufficient Quantity they are rather to be provoked, by such things as stimulate the *Rectum*, and fret the Extremities of the Vessels, as, *Aloes. Scammon Colocynth. &c.* Or, *R. fellis Bovin. ℥j. aloes ℥ij. acet. acerrim. ℥ij. M. pro Iniectione*; or, *R. pulv. Colocynth. ℥iij. amygd. amar. ℥j. mel. despumat. ℥ij. f. Suppositorium.*

When they are apt to bleed immoderately, the Acrimony of the Humours is to be corrected by a regular Diet, and Revulsion is to be made by Bleeding, Cupping, and Ligatures made on the remote parts; the depraved Crasis of the Blood is also to be corrected by internal Medicines, and thickened and incrassated by altering the Disposition of the Humours, and depressing the Ferment of the Blood, by Juleps sweeten'd with *Syrup. de suc. Citri. Cydon. de rosis siccis*; or, *myrt. pulv. bistort. tormentil. lap. hæmatitis, sang. Draconis, troch. de terra Lemn. C. C. ust. bol. armen.* may be likewise given, made up into the Form of an Electuary, with any of the before-mentioned Syrups, adding *Gum. Arab. pulv. or Tragacanth and Olibanum*, or, *R. Croc. martis astring. ℥j. Diascord. ℥℔. M. Theriac.*

Venet.

What is to be considered in the Hæmorrhoides Apertæ.

Venet. Laud. &c. are also convenient, Opiates checking the preternatural Ferment of the Blood, and disposing the Humours to go off by *Diaphoresis*, whilst the Astringents and gummy Medicines thicken the Blood and Serum. Astringents are also to be applied externally, as, *Cort. granator. pulv. balust. Thus Mastich. N. Cypress. gallæ gum. tragacanth. &c.* made into the Form of Suppositories with the White of an Egg; or they may be externally applied on pledgits of Tow; or *ol. Terebinth.* may be either injected, or pledgits dipped in it applied externally.

C H A P. XXVII.

Of Fungous Tumours or Excrescence about the Anus, viz. Condyloma, Ficus, Cristæ, Thymi, &c.



THE parts about the Anus are subject to several fungous Tumours or Excrescences, which from their Similitude to different Things are called by different Names.

Condyloma rises from a soft round Tubercle distending the internal rugous Coat of the Anus, without Pain, Alteration of Colour in the Cutis, and as it increases it grows carnous. If it be prolonged, and grows pendent resembling a Fig, it is called

Description of a Condyloma.

Of a Ficus.

Cristæ are hard Excrescences, which rise in the form of a Cock's Comb, something distant from the Verge of the Anus, and are usually Symptoms of the Venereal Distemper.

Of Cristæ.

Thymi are hard Excrescences, somewhat like Thyme-leaves, which grow much like the tops of the herb they take their Name from; some of which are benign, others malignant and cancerous. There are a softer sort of these Excrescences which are called *Papulæ*.

Of Thymi.

Rhagades

Of Rhagades.

Rhagades are Chaps or Fissures about the Verge of the Anus, proceeding from a sharp fretting Humour, which hardens the Skin, and for want of Vent grows corrosive, and occasions it to chap.

The Diagnosticks.

They are easily distinguished from one another by their Appearance,

The Cause.

These Excreescences owe their Origin to a vicious Apposition of the parts of a gross Humour thrust out of the Pores of the Skin, and too thick to transpire through the Pores of the Cuticula. The Crista and Rhagades are Symptoms of the Lues Venerea, that virulent Humour corroding the parts, and making them spongy, so that they are either totally destroyed in their Texture, or thrust out an irregular Fungus, the spongy Vessels ouzing out a thick Juice, whose parts adhere, and by an undue Apposition increase the Fungus.

The Prognosticks.

The Thymi are the worst sort, and if not well extirpated grow cancerous. The other Excreescences are easily cured.

The Cure.

The Cure of these Excreescences in the Beginning, is to be endeavoured by Astringents, as *Summit. Rub. Equiset. fol. & bac. myrt. sumach. Cort. Granator. balust. squam æris, calx. lot. alumen.* &c. in the Form of Fomentations or Powders, mixed with *Unguent Desicativ. rubr. al. camphorat.* &c. But if these are ineffectual, they are to be cut off, and the Roots destroyed by Escharoticks, or actual Caution; and the Slough separated, they are to be digested, incarnated and cicatrized.

Of the Cure of Rhagades.

In the Cure of *Rhagades*, the Callosity is first to be removed by Emollients, and then they are to be cicatrized. But if the part be affected with

too much superfluous Humidity, R^e fl. ros. rubr.
mac. myrt. sum. Rub. āa. M. j. rad. Tormen-
til. Bistort. āa. ℥j. alum. ℥ss. coq. in aq. Chalyb. ad
℥ss. sub fin. addend. spir. Vin. ℥iv. f. Fomentatio.
After the Fomentation apply the following, R^e
Lytharg. Ceruss. āa. ℥iij. Sarcocol. Mastich. Thur.
āa. ℥j. Ter. sigillat. ℥ij. ol. Rosar. ℥j. Cera q. s.
M. But if the Parts are too dry and hard, R^e
sing. Vitulin. gallin. āa. ℥iij. Lytharg. ℥j. M. pro
Ufu.

C H A P. XXVIII.

Of a Phyma.

Of a Phyma about the Arms. The Prognosticks.



Phyma is a hot Tumour in the lower part of the Rectum, where the *Evatores Ani* are inserted.

These often terminate in *Fistula's*. Those which happen internally, often extend their *Sinuosity* amongst the adjacent Muscles and are most difficult of Cure. Those which are external also terminate in *Fistula's*, the Sinus, neglected, growing callous.

The Cure.

Those Phyma's which are external are to be laid open by *Causticks* in due time, before they form a Sinus, that the Matter may be freely discharged, which could not be done so well by Incision, the Orifice being apt to close up again too soon. The internal are soon cured, if opened in the Beginning by Incision.

C H A

CHAP. XXIX.

Of Tumours of the Tonsils.



Tumours of the Tonsils increase gradually, without Pain, and when great, are frequently attended with a Catharrh, Cough, and difficulty of Swallowing.

The Cause of these Tumours *The Cause.*

the same as of other Tumours in Glandulous

ts, viz. Gross and Superfluous Humours.

When these Glands Tumify, they are of a *The Diag.*

round and oval figure, without altering the Colour *nos ticks.*

the Skin, and of a very obtuse dull Sense.

If the Tumour be small it may continue a long *The Prog.*

without any inconveniency. If they be *nos ticks.*

enlarge and endanger Suffocation they may be re-

moved without any great danger.

In order to the Cure, Bleeding is necessary *of the Cure.*

to empty the Vessels, and prevent the Afflux of

tumours, as also Evacuation by Lenient Purges,

Astringent Lotions; Derivation and Revul-

sion may also be made by Blistering, Cupping &

these. But these Methods are most proper, when

the Tumour is made by the sudden Afflux of Hu-

ours. When the Tumour is made by Congestion,

it is to be removed either by Ascission, or Actual

Potential Cautery. If Actual Cautery is made

of, it must be passed through a Canula, two or

three times, till a hole is burnt quite through the

body of them, which will shrivel them up. To

excise them by Potential Cautery, the

Stick Stone or proper Escharoticks are to be

used in a proper Instrument to defend the Parts

M

adjacent

adjacent from the sharpness of the Medicines To Extirpate by Ascission, a Ligature is to be made about the Basis, Snipping them close off with a pair of Probe-Scissors, taking care lest you cut the Ligature at the same time, lest it fall down into the *Trachea* and hazard choaking; to prevent which the Ligature is to be held in one hand whilst the Scissors are passed down close by the Basis, and the whole separated at once, the pulling it out by the Ligature. If the Ligature slip off, it is to be taken hold of with an Instrument convenient, and armed with another Ligature, that it may be raised from the *Trachea*, and at the same time tyed again. The Gland being extirpated, the Flux of Blood may be stopped with a Gargle of *Oxyerate*, Cicatrizing it with the *Vitriol*. or *Alum Stone*.

CHAP. XXX.

Of a *Ranula*.

Description



The Cause.

Ranula is a hot Tumour of Salival Glands under the Tongue which increasing, fills up the space between the Jaws, and appears externally under the Chin. It is occasion'd as other Tumours of the Salival Glands by the Grossness of Saliva.

The Tumour is soft and without Pain or Alteration of the Colour of the skin, containing a Matter much like the whites of Eggs. They are not dangerous but hard to Cure. Diagnos-
ticks and
Prognos-
ticks.

In the Cure, the Crasis of the Blood and Serum to be corrected and attenuated not only by proper Evacuations, but Internal Alteratives. As to the Tumour it self, Discutients are proper; Spices which are warm, and Salts mixed in proper Liquors, or held in the Mouth in the form of powders, as *Rx. pipe, is. Zinzib. ana ʒi. sal. Commun. Gem. ana ʒii. origan. Calaminth. rad. Ireos. armodact. ana ʒss. Mastich. ʒi. M. F. Pulv.* Externally, Discutients also are to be applyed, as *emplast. de Ranis cum Mercurio &c.* If by this method it will not discuss, the Tumour is to be destroyed by Actual Cautey, dressing it afterwards with *Syr. de Ros. siccis*, afterwards deterring it with *mel. Egyptiac. in decoct. Beton.* then carn and cicatrize. The Cure.



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SYSTEM

OF

Rational Chyrurgery, &c.

PART. II.

CHAP. I.

Of Ulcers in General.

N Ulcer is a Solution of Continu- *Definition.*
 ity in a soft Part, made by Ero-
 sion with Loss of Substance. But
 frequently Wounds made with
 a loss of Substance degenerate
 into Ulcers; and though they
 differ from genuin Ulcers, in as much as the loss
 of Substance is not made by Erosion, but cut a-
 way;

way, yet when by the fault of Corrosive Humour, a further Erosion and loss of Substance issues, they then may be properly called Ulcers. An Ulcer is said to be made by a loss of Substance by Erosion in a soft Part, to distinguish it from that Erosion in Bones, which is called *Caries*.

Differences,

Ulcers differ, either Essentially or Accidentally. Essential Differences are taken from the Figure, Magnitude and Equality or Inequality, as also the Difference of the Part affected, and the Nature of the Cause. As they are benign, malignant, contagious or not. Accidentally, Ulcers differ as they are attended with Inflammation, Tumour or Putrefaction, as Phlegmon, Erysipelas, Cancer, Gangrene, Callus, Varicella or Caries. Besides these Accidents which complicate, there are others which are Symptomatical, as Pain, Pulsation, Pricking, Burning, Heat, Itching and Excoriation. They differ also according to the Time, as they are in the beginning, state or declination. They differ likewise as they are Original, or the Event of another Disease, as Tumour or Wound.

Cause of Erosion.

The Causes of Ulcers are either Internal or External. As to the Internal Cause, since a Cancer is made by Erosion, it is evident, that it must depend on a too sharp and acrid disposition of Humours; it being impossible for the Part to be corroded, without such a sharp and corrosive Quality in the Humours, as may fret, separate and divide the Parts of Solid Bodies, which are not only contiguous to one another, but also continuous, the Parts they consist of being united and joined together, by a firm and close texture. How the Humours acquire this acrid

monious corroding Quality; and how it occasions an Erosion, I shall further Enquire. First it is necessary we should know what Humour it is that makes the Erosion; and since it is apparent, that the Blood is contained in it's proper Vessels, without Extravasation, that cannot be the Cause specially immediately; but since on the contrary, Ulcerated parts are plentifully watered with various humours, the Serum of the Blood, must consequently be the immediate Cause of Erosion. Which as it is a constant habitual Humour of the Body, it is necessary we should consider how it comes to be too sharp and corrosive, and how it happens to degenerate from it's Natural or proper Crasis.

The Serum of the Blood then may be inclined to sharp and corrosive Dispositions, either by the Hereditary Constitution of the Body, or an acquired Indisposition. The Hereditary Constitution of the Body may incline a Body to sharp and corrosive humours, when by the Natural confirmation of the Vessels, and the Depraved Temper of the Succus Nutritivus received from the Mothers Blood. a sharp Disposition of Humours becomes Habitual; and the Humours once impregnated with sharp and acrid Parts, degrades and assimilates whatever is added afterwards, for the supply and constant Nourishment of the Body. An acquired Indisposition may incline the serum of the Blood to a sharp and acrid quality, when by Errors in Eating or Drinking, the Natural Ferment of the Stomach is depraved and perverted, the Victuals we eat and the Liquor we drink abounding too much with acrid Salts, by which the Chyle which supplies the Blood with serum, is thus vitiated. But besides an Hereditary Indisposition or an acquired one by the Faults of a depraved Appetite and Di-

How the Humours acquire an Eroding Quality.

gestion in the Stomach, the Serum of the Blood may acquire a sharp Corrosive Quality, when by reason of Indigestion, though there be no depraved quality in the Chyle, the Serum of the Blood is crude, and consequently the Pancreatick Juice being not well digested, impregnates the New Chyle with it's depraved Qualities; which at last growing predominant, by its constant Increase, and this crude acid, fettering and retaining the Cholerick or Saline parts of the Blood which ought to be separated as Excrementitious the Serum of the Blood acquires an Acrimony.

*How that
Eroding
Quality is
diversified.*

Now when the Serum is thus depraved according to the difference of Constitutions, it is either more or less complicated with Phlegm, Chole or Melancholly, and consequently it's acrimony is more or less benign, malignant or virulent and occasions Erosion, and consequently Ulcers either benign, malignant or virulent, as the Crasis and Disposition of the different Constitutions tends to the Improvement of this Acrid Serum, of which we have given a large account before in the first Part, of the Causes of Cancers and other Corrosive Tumours.

But to proceed to the second part of our Enquiry, viz. how this Acrimonious or Corrosive Serum occasions an Erosion, and consequently an Ulcer, we are to consider, that Ulcers are either Original or Accidental, and the Event a Tumour or Wound.

*The Formal
Cause of
Erosion.*

To make it appear then, how the Corrosive Serum produces an Original Ulcer, we may consider, that as long as this vitiated Serum is mixed with, and swims amongst, the Balsamick and Glutinous Mass of blood, its Edges are dulled, and it's Effects prevented by the Interposition of the particles of that Mass; but when it comes to

separate

Separated from the Blood, and instead of circulating quickly past the Parts, and being interposed frequently by the Sanguineous balsamick Particles, it remains upon the Vessels and hath power to act without Interruption, it not only acquires a further degree of Acrimony, the Acrimonious parts fretting and dividing one another, and consequently making themselves more minute, but by this acquired Acrimony and Subtlety, they are able to insinuate themselves, and penetrate into the pores of the Vessels, and though of a Close and Firm Contexture, by interposing betwixt their Parts, they separate and divide them, destroy their Texture, and make a Solution of Continuity. If they are cast out through the Glands of the Cutis, they loosing their balsamick mixture of the Blood, corrode the Cutis and cause an original Ulcer, being hindred from passing through the Pores of the Cuticula by some accidental Crudity, which was heaped up in the Mass of Blood, for want of good digestion; how Crudities are bred in the Stomach and Blood hath been sufficiently shewn in the First Part.

From what has been said of the Reason of Original Ulcers, the reason of these Accidental Wounds, which happen to be the Event of Tumours or Wounds, may easily be conceived, since this Acid Humour, being extravasated in the Tumour or Wounds, and lying there, may easily acquire a further Acrimony, which will more readily promote the Erosion of Vessels, whose texture was before in some measure destroyed or weakened by the proceeding Disease.

The Formal Cause of Wounds, &c. degenerating into Ulcers.

Thus

How External Causes may concur to the Production of Ulcers.

Thus much of the Internal Causes of Ulcers; as to the External Causes, a Corrosive Quality may be communicated to the Serum betwixt the Cuticula and Cutis by either Poysons, Corrosive or Caustick Medicines, actual Fire, or any hot and Scalding Liquor or Oyl, or contagious Diseases, as the *Itch*, &c. which impregnate the Serum of the Blood with hot corrosive Parts, which making a Solution of Continuity create an Ulcer, which if there be a predisposed Humour in the Blood, Ulcerates more or less as that Humour is more or less benign or virulent.

The Difference of the Excrements of Ulcers.

Ulcers thus formed, according to the Different Nature of the Acrimonious humour, discharge a Different Excrement, and thence Ulcers are called either Sanious, Sordid, or Purulent.

Whether Sanious.

Sanious Ulcers discharge a thin Serous Humour or Sanies, or Ichor, and by some called Virus; and thence Ulcers are said to be Virulent, but Ichor seems more properly, the Gleet that flows from Tendinous and Membranous Parts, and virulent rather the highest degree of Acrimony, the Erosion being accordingly violent, and the Matter discharged fetid and putrid; but that which is properly sanies, proceeds from abundance of thin Excrementitious Serum, which renders the Ulcer moist, and is either hot and reddish or cold and pale-Coloured, according to the Difference of the Constitution & Temper of the Patient, & as the Serum is impregnated with hot chole-
rick Salts, or depressed & diluted with Phlegm.

Sordid.

If the Excrementous Serum be thick and gross and makes the Ulcer foul, it is called Sordid, the Sordes differs as it is white or grey, and unequally coagulated, or as it is black and fetid: The Phlegm as it is impregnated with melancholick acid, austere, or acrid and corrosive salts de-
generating from the true Colour of Phlegm.

In some Ulcers the Excrement is neither so thin *Purulent.* as a Sanies, nor so gross as a Sordes, but of a middle Consistence, being of a Greenish or Yellow Coulor, but commonly White, which comes nearest to the Qualities of a Natural and good Serum, and these are called Purulent Ulcers.

But an Ulcer may not be only Sordid, Sanious or Purulent, by the Condition of the Serum, but also by Accident, since by ill management a Sanious Ulcer may become Sordid, or by proper methods a Sanies may be turned into Pus; and on the contrary a Purulent Ulcer may be by ill management turned into a Sanious or Sordid one.

Since then the Nature of Ulcers may be thus changed, by Art or ill Accidents; that we may the better understand the Reason of these alterations we are to consider a little further the Nature of an Ulcer, and when the Erosion hath made a loss of Substance, how the excrement varies so much, since it is supplied by the Serum of the Blood, which is of the same consistence in the same Person, whether the Ulcer be Sanious, Sordid or Purulent. *The Reason of the Different Excrements of Ulcers.*

To apprehend then the Reason of this we are to consider, that when by Erosion the Texture of the Vessels is destroyed, and loose their Continuity, the Parts of Matter, which when they formed solid Vessels, were at rest and void of Motion, being separated and mixed with Part of the Corroding Humours, which separated them, acquire a new form, and clog up and obstruct the Extremities of the small Capillarys, which if divided by any sharp Instrument would extravasate not only Serum, but the Blood it self, but being in a great measure choaked up with their own Ruins they are not able to discharge the Serum it self, but since the Serum is constantly pressed upon *Of Sanious Excrements.*

upon the Part by the force of Circulation, the thinner Part of the Serum is strained out through the Extremities of the eroded Vessels, and supplies that thin Sanious Excrement, which is reddish or pale Coloured, as it is Tinctured with the purest and thinnest Parts of the Blood, or pure and unmixed ; but,

*Of Sordid
Excre-
ments.*

When the Extremities of the Vessels are so obstructed, or the Serum of the Blood so gross, as not to separate it's thinner Lympha, the eroded Ruins of the Vessels not being sufficiently diluted, they form a gross and thick fæces, which makes the Ulcer sordid ; but an Ulcer may not only be sordid by thus obstructing the Vessels, and stopping that thin serous Gleet, but by the ill use of Applications, which by their Astringency or other Qualities, accidentally increassate the thin Humours separated, and likewise bind up the Vessels and so occasion a Sordes.

*Of Purulent
Excre-
ments.*

How Purulent Ulcers discharge a good Pus of a due Consistence will appear, when we come to explain the Nature of Digestion, it may be sufficient here to shew, that the fæces made by erosion being digested and discharged by dilating it and turning it into Pus, the Extremities of the Vessels are more at Liberty, and are able to discharge more freely, the Serum contained in them, which makes the Excrement thicker, and more easily converted into Pus, as the Vessels are clear of their Obstruction.

But when an Ulcer is Putrid, it depends upon the depraved Qualities of the Humour, which violently erodes the Parts, and quickly disposes them as well as it self to Corruption.

As to the Diagnosticks, if an Ulcer be external it easily appears to sight, but if internal, it is known by the Excrements that flow from it, & the Symptoms that attend it. *The Diagnosticks.*

If Ulcers are deep or sinuous or carious, the use of the Probe will make it evident, and if internal are proportionable to the Quantity of Matter that flows from them, if Sanious the Gleet shews it; if the Lips be Jagged and Callous, it is Phagedænous or Virulent, if the Excrement be gross and slimy it is sordid; if corrupt and fætid, it is Putrid; if it spread and be superficial, it is a Herpes excedens. If a Nerve, Tendon or Ligament be affected, the acute Pain will make it appear. If the Pain be from a Nerve, the Limb is sometimes contracted, and Convulsions attend it, if an Artery be near, the Pulsation will be apparent.

In Prognosticks, the Event is to be Judged of by the Quality of the Ulcer, the Part affected and the strength of the Patient. *The Prognosticks.*

Ulcers in the skin are not dangerous, but more difficult of Cure, according to the Intemperies. In the Emunctories of the Body, they are dangerous being near large Vessels, and difficult of cure by reason of too much Moisture. In the Muscles of the Spine and Back they are difficult to cure and dangerous, as also when near any principal Part, which may be affected by them. In Parts of exquisite sense, as the Hands and Feet, which are full of Tendons, they are painful and hard to cure. Large and Deep Ulcers are dangerous exhausting the Spirits by their great discharge; and if they lye under any Nerve, Artery or Tendon, so that they cannot easily make a discharge, or safely be laid open, they are slow and difficult of cure. If the Ulcer be in a depending Part and the Body full of Humours, tho' the quality of them be tolerable good, it is long in Cure;

*What is to
be conside-
red in the
Cure.*

*The Diffe-
rent times
of the Ulcer
considered.*

Cure; as also if the Quality be ill, though the Quantity be small. When Ulcers by their long Continuance have destroyed the Crasis and Tone of the Part, they are incurable and dangerous

In the Cure we are to consider, whether the Ulcer be Simple or Compound. And since it is not only a Solution of Continuity, but also a loss of Substance, which is made by a Corrosive humour, the Solution of Continuity is not only to be reunited, by Restoring the Loss of Substance, but the Internal Indisposition is to be obviated by proper Medicines.

If the Ulcer be simple, we are to consider the time of it, whether it be in the Beginning, Augment, State or Declination; but in the Cure of Compound Ulcers, several Indications offer themselves, according to the Variety of Symptoms that attend them. In the Beginning, the Crude and Waterish Serum is to be concocted and digested, and by the Use of suppuratives converted into Pus; but in putrid Ulcers Suppuratives are to be avoided, since they increase Putrefaction, and continued too long in Purulent Ulcers they increase the Excrement too much, and render the Ulcer fordid; when an Ulcer is attended with pain, they not only digest the matter, but by their Lenient Qualities, correct the sharpness of the Humour and ease the Pain. In the Increase when by the use of Digestives the Matter is converted into Pus, it grows thicker and less in quantity, and then the Ulcer is to be cleansed by the Use of Detergents. In the state, when the Ulcer is cleansed, Sarcoticks are proper to restore the loss of Substance; and in the declination, when it is filled with flesh, and sufficiently incarnated, it is to be Cicatrized with Epuloticks. How Digestion, Deterision, Incarning, and Cicatrizing are performed, I shall endeavour to explain

explain, in each Particular Case, when I come to consider the Nature of the Ulcer, and the Method by which these Intentions are promoted.

But since an Ulcer is subject to Accidents and all Symptoms, which are occasioned by the Influx of sharp corrosive Humours; before we can hope for success in Curing the Ulcer, the Cause of these Accidents, and of the Ulcer it self, is to be removed out of the Blood, and the vitious depraved Temper of the Serum to be corrected and altered. So that in respect of the Cure of an Ulcer, there are several Intentions.

And First a convenient Diet is to be ordered, to correct and temper the ill Qualities of the peccant Humour, which is to be regulated according to the quality of the Humour, and the strength of the Patient, neither too hot to inflame and exasperate the Symptoms; nor too cold, lest the digestion be hindered, and the Ulcer filled with Crudities; their Drink is also to be moderate in quantity, and tempered in qualities, as Necessity requires. As also the Air ought to be good, and Exercise moderated, as Reason and present Circumstances give Occasion.

The second Intention respects the Antecedent Cause. Which is to be corrected, if it abound in Quantity, by Evacuation, by Bleeding, or purging, or both, as the strength of the Patient, and other circumstances indicate, which diminishing the Quantity of the peccant Matter, is not so plentifully thrown upon the ulcerated Part; Derivation may also be made, by leeches, Cupping Glasses, Blistering Plaisters, Ligature, &c. If the Antecedent Matter, which is also conjunct, as it supplies the Ulcer constantly, be vitiated and much depraved, that Acrimony is to be removed by the Use of proper external Medicines, which may restore the Blood

*How ill
Accidents
are to be
prevented.*

*The First
Intention.*

*The Second
Intention.*

Blood and Serum to their Natural Crasis and Temper.

*The Third
Intention.*

The Third Intention regards the Part affected with the Ulcer, which is weakned by the Intemperies, and by that means rendered apt to yield to the Influx of depraved Humours. To prevent this, proper Astringents and Repellents are to be applyed in the form of Detensatives. The Parts are also to be guarded from the Influx of humours by due Position, and Expulsive Bandage.

*The Fourth
Intention.*

The Fourth Intention respects the Ulcer it self, which consists in a due Application of Medicines with regard to the several times of it, whether in the Beginning, Augment, State of Declination; as also the Accidents and several Symptoms that attend them. How these Intentions are to be pursued, and the Intemperies as well as the Ulcer are to be obviated, shall be accounted for, when we come to treat of each particular Species in it's proper Place.

CHAP

C H A P. II.

Of a Simple Ulcer.

A Simple Ulcer is a Solution of Continuity made by Erosion, without any other Symptom or Accident attending it. From which Definition it may easily be known and may promise a good Prognostick.

Definition.

In the Cure there are two General Intentions, *The Inten.*

First, to restore the loss of Substance by a *tions of* Generation of new Flesh; and Secondly, to unite the separated Parts by a Cicatrix. *Cure.*

In order to the first Intention, a regular Diet *The First* to be observed, and a Moderate use of Non-Nutritious *Intension.*

Aliments; for since the Ulcer is not attended with Empuries, if the Serum of the Blood be furnished with well digested Chyle, and the Natural Evacuations be continued, the Crasis of the Humors will be preserved, without the Assistance of Medicines, and the Tone of the Part preserved by a Moderate Supply of good and natural Food, and the Ulcer well Digested, and easily disposed to heal.

Since then in these Simple Ulcers, Nature is not *The Inter.* disturbed in performing her Part by depraved *tions differ* ill humors; nor interrupted with *accor-* ill symptoms; External Applications will have their *ding to the* particular effect either Digesting, Deterging, *time of the* Inflamming or Cicatrizing, as the time of the Ulcer. *Ulcer.*

and Matter that floweth from it shall Indi-

Digestives In the Beginning whilst the Extremities of
when pro- Vessels are obstructed by the Parts of those Ves-
per. sels that are consumed by Erosion, and only
 sues out a Waterish Humour, Digestives are
 proper, whereby the Matter may be made thi-
 ker and turned into a laudable Pus, smooth and
 easy to the Part, and every day approaching
 nearer to the true Nutritious Juice. Medicines
 proper for this Intention are such as have Leni-
 ent Qualities, which are to be adapted to the
 Temper of the Part they are applyed to In tender
 Bodies *Terebinth. cum farin. tritica. Croc. & Ma-*
ov. is sufficient, but in stronger Bodies *farin. hor-*
fabar. colophon, Thus, pulv. sem. sanguinariae
 be added, and *mel. rosat.* and *Syr. de rosis* for
 Or Unguent. *Basilicon.*

Why conve-
nient in the
Beginning,
and how
Digestion
is promo-
ted.

As for the manner, how these Medicines pro-
 mote Digestion, to make it evident, it will be
 requisite to consider, First, the Nature of the Ul-
 cer, and then the Nature of the Medicines ap-
 plyed. As for the Nature of the Ulcer, from
 what hath been said in the the Chapter of Ulcers
 in General, it appears, that the thin Gleet in the
 Beginning is occasioned by the Obstruction of the
 Extremities of the Vessels, the thinner Part of
 the Serum being strained through the feces of the
 eroded Parts, which clogg up the Vessels, and
 cause that Obstruction; now since digestives are
 Balsamick, Emollient and Astringent, the Balsamick
 Medicines consisting of warm Parts, will dis-
 solvomit very volatile and odoriferous Effluvia, it
 be Reasonable to suppose, that when these Medi-
 cines are applyed, that the Astringency con-
 tributes to the thickning of that eroding Humour,
 which Gleet in the Ulcer, since Astringents
 mixed with Acids are easily converted into a
 coagulation; but they not only are serviceable
 in thickning this thin Humour, but by imbibing

sharp eroding salts prevent a further erosion of the Parts, whilst the Lenient and Balsamick Parts so interpose their good Qualities, and dull the edges of the Eroding Humour, and likewise help to incrassate and thicken it; and by impregnating it with their soft Balsamick Parts, make it soft and smooth and easy to the Parts, whilst the Emollient Balsamick Qualities have this good Effect also, to soften and loosen the feces, which obstruct the Vessels, which also are washed away by succeeding Serum, pressed out of the Vessels. But besides their thickning, this thin Humour thus, and preventing the further Erosion of the Parts, they have another good Effect, which is by their volatile Effluvia and warm Parts to impregnate the Serous Gleet, and likewise the dried feces, and by that means the Parts of the Gleet being separated and divided, they are more ready to incorporate with the rest of the Humours. Thus by degrees this thin Gleet does not only grow thicker and mild and more Balsamick, loses its corrosive Quality, but also the feces in the eroded Vessels being gradually digested by the warm Parts of the Medicines, the Vessels become by degrees less and less obstructed, so that instead of a thin Watry Humour they are able to discharge the thicker Serum, which is more ready to be incrassated and digested by the mixture of the Parts of the Medicines, and turned into Pus. That these Digestives may have a better Effect in concocting and altering this Humour, and bringing it to a good consistence, they ought to be of a moderate consistence themselves, and not too thin and liquid, lest they run off the Pledges and leave them bare upon the Ulcer, and so inflame the Part. In deep Ulcers they ought to be of a thinner Consistence, that they may the better affect the Bottom of it. They

are to be applyed upon Pledgits, Dossils or Tents according to the depth and nature of the Ulcer with convenient Defensatives over them, to preserve the Temper of the Part & prevent Fluxion.

Detergenis
when pro-
per and how
they produce
th-ir Ef-
fects.

In the Augment, when the Matter is well digested, the use of these Medicines is to be forborn, for by the too long continuance of the Matter is thickned too much, and the Ulcer made sordid. The Matter therefore of the Ulcer being well digested, and of a due consistence, Detergents are to be mixed with Digestives, *Terebinth. lot. in aq. acetos. ℥iv. suc. apii ℥i coq. ad consumpt. succi, deinde add. vitel. unius* or *Mund Paracels.* may be applyed; or *Bastard* with a sufficient Quantity of *Mercur. precip.* with which you may Digest, Deterge or Incise as the Quantity of the *Pracip.* is more or less. When by the use of these sharp biting Medicines the gross Phlegm, and Spongy Flesh which is in digestion, are fretted away, and the Flesh appears of a Ruddy Colour, the eroded Vessels digested and converted into *Pus*, being likewise worn away, and nothing but firm Flesh remains the Ulcer being

sarcoticks
when to be
used.

In the state, we are to make use of Sarcoticks which are to be moderately drying, and not too sharp, lest by fretting too much, they destroy and consume instead of promoting the Generation of Flesh; and as they are not to be too dry, so neither are they to be too moist, they suffer Fungous Flesh to rise, or digest, and corrupt the sound Flesh. In soft and tender Bodies mild Sarcoticks are to be made use of, *Olibanum Thus, Aloes, cort. Thuris. farin. grac. orobi. &c. Basil. Diapompholygos, Ung. Tutia. Calaminaris, &c. Or R. Myrrh. Aloes ℥ss. Thuris ℥i. Mastich. ℥ss. gum. Elemi Terebinth. venet. ℥iv. ol. Hyperic. q. s. f.*

Stronger Sarcoticks are, *rad. Ireos. Aristoloch. farina. Lupin. Sarcocol. assa. fatid.* made up with *mel. despumat.*

Though Medicines applyed may promote the *Hom Na.* generation of Flesh and help Nature, yet since *inve pr-* make that Flesh which supplies the Loss of *forms her* substance in Ulcers, is the Work of Nature, we *Part in in-* will endeavour first to shew, how Nature per- *warding.* forms her Part, and then how she is assisted by Art. And First, when by the use of detergents the *es* and spongy Parts are fretted away, if the *ergent* be strong, the Extremities of the Vessels, which oozed out the thin Gleet, & afterwards the Serum which afforded the Excrementitious *Pus,* be so far clear and open that even drops of blood appear in their small Cavities. Now as the Parts of Blood and Serum are confusedly jumbled together in Circulation, it must follow that the Serum interposed betwixt the Parts of the Blood leaves such a space, that if they could be taken away, and the Parts of the Blood continue in the same form and place, as when the Serum was interposed, there would be a great many pores and cavities, communicating one with another in that Bloody Substance, which would be as so many Vessels or Pipes, for the Passage of another liquor, could but those particles of Blood adhere together in such a form, and acquire the firmness of a Vessel. If this were possible it were no difficulty to Imagin how those drops of blood in the Extremities of the Capillarys, adhering to the sides of those Minute Vessels might be condensed and hardened, and by that Apposition of arts, make a prolongation of the Vessels, whilst in the mean time the Serum betwixt their Parts would coagulate, and form a Cavity, and continue Liquid; since the Blood is apt to coagulate, the Serum continuing fluid. Now if the Serum thus formed

a Cavity for it self, the stringy Parts of the Blood adhering and forming a Vessel, it would follow that subsequent Serum might distend and stretch that Cavity and make it fit to receive Blood which rising through the Pores of the new made Vessels, make a fresh apposition of Parts and continue the Work of Incarning, the Blood still appearing upon the surface of this new made Flesh as it did at the first upon the surface of the Original Vessels.

That the Work of Incarning is thus performed I am the more reasonably encouraged to believe First, because the difference betwixt a Solid and a Fluid is nothing, but that the Parts of a Solid are at rest, and without Motion, and that the Parts of a Fluid Body are in Motion. Secondly because the work of incarning must be done by an Apposition of Parts of some Humours, which first adhering to the original Vessels, and then one another, must form a Continuity, and grow solid, for as much as being at rest they loose the fluid Quality and acquire a solid Quality. Thirdly because there is no other Humour but Blood and Serum, to make that Apposition; and that the Blood is more viscid and tenacious, and apt to adhere in such a Continuity than Serum, which remains fluid, when out of the way of Circulation whereas the Blood soon inclines to a solid form when it hath lost it's Natural Motion of Parts which are continued in Circulation. Fourthly because when an Ulcer is incarning, the Serum is constantly issued out and supplies the Matter of Pus, whereas the Blood is retained within the new prolonged Vessels.

If any one should ask, how this Blood must be continued in circulation, if contained in such sort of Vessels, it may be answered, that since they have a Communication with one another, and that the Extremities of Veins as well as Arteries are open upon the surface of the Original Vessels, the Blood forced from the Arterial Capillaries, presses it's Current through Lateral Communications, till it enters the Orifices of the Veins.

*An Objection
on considered.*

Thus much being said of the manner of incarning, we shall next consider, how Medicines may assist similar Parts in making a similar Apposition; In order to apprehend that, we may consider, what Qualities these Medicines have, and consequently it will appear, how those Qualities may contribute to this Intention of Nature. And first, since these Medicines are of a Gummous and Rezinous Quality, as well as warm and Aromatick and drying, they still serve to preserve the Matter of the Ulcer in a due degree of thickness and softness, that it may lye easy and Balsamick upon the new Vessels, without corroding and fretting them, whilst by the warmth of their Parts, they preserve the Natural Heat in the Part, and by their drying and bitter Qualities, they check and restrain the too quick growth, and rise of this new flesh, which would otherwise grow loose and spongy, the Vessels being prolonged faster than they could grow firm and hard; so that when they come to harden and shrink afterwards, the Flesh feels loose and spongy, but by virtue of these drying Medicines, they grow no faster than they can be confirmed and hardened as they increase. But care must be taken, that these Medicines be not too drying, lest on the contrary they contract, if not corrode,

*How incarning is
promoted
by A.*

the new Vessels, and make the Ulcer discharge a thin Gleet again and render it Sanious.

When Cicatrizing Medicines are to be made use of.

The next thing to be done, when the Ulcer is incarnated, in the Declination, is to Cicatrize; and since nothing but the Serum is discharged from the New Vessels, the Medicines made use of to this purpose must be Astringent and drying, imbibing the Superfluous Moisture of the Serum, and by that means disposing it to grow gross, and apt to harden and form a Callus; being also thickened by the Astringency, which also imbibes moisture and helps to form the Cicatrix.

Moderate Cicatrizing Medicines are, *Bol. Armen. Sang. Dracon. Creta. pulv. ostreor. combust. ros. rubr. balust. sumach, calx lota, cerussa, plumbum ustum, tutia*, but of which Compositions may be formed and used, either in the form of powder or decoctions; out of which Pledgits may be wrung and applyed to the Part. If stronger Medicines are required, *Sacchar. saturni, vitri. Roman. es. ust. squamme. aris, ferri, croc. Mart. astringent. &c.* or, *Unguent. Calaminaris, Emp. Grisei. ana ʒi. Liniment. Arcai, ʒss. Sacchar. Saturn. ʒi. cere. q. s. f. Emplastrum.* But some of these Medicines it too strong, or made so by being applyed in too great a Quantity, they instead of hardening the Serum into a Callus, corrode and consume the flesh.

As for the time, when Epuloricks are to be applyed, it ought to be when the flesh begins to rise near the Lips of the Ulcer, that the Ulcer may begin to Cicatrize from the Edges; for if the Flesh rise too high you will be forced to use Escharoticks to take it down again. If the Lips of the Ulcer lye not even with the Ulcer, it will not easily Cicatrize, therefore they are to be kept down by Compress and Bandage.

CHAP. III.

Of Ulcers with Intemperies.

AS it seldom happens that an Ulcer of *Ulcers* is without some Disease compli- *with Intem-* cated with it, so it acquires dif- *peries.* ferent Names, according to the Difference of the complication; hence from a particular Indisposi- tion of the Humours in General, or of some part, whose weakness inclines it to receive ill tempe- red Humours, an Ulcer is said to be with In- temperies.

Ulcers with Intemperies differ either as they *How they* are Simple or Compound. The Simple are, *differ.* hot, Cold, Moist, and Dry. The Compound are when two of these happen to be compli- cated together. As Hot and Moist, or Dry,

A hot Intemperies may be occasioned either *The Cause* by a particular Habit of Body, and Dyscrasy of *of a hot In-* the Serum of the Blood; or may be acquired by *temperies.* particular Diet and manner of Living; or may be occasioned Accidentally by external Heat, or the Application of hot Medicines, or by keep- ing the Part too hot with Cloaths or Rowlers, or lastly, the part may be heated with ill Ban- dage.

*Of a cold
Intempe-
ries.*

A Cold Intemperies may either proceed from a particular Habit of Body, which depends on the Natural Constitution of the Person; or else it may be acquired, by ill Diet, or occasioned by accident; as keeping the Part too cold, for want of Cloaths, or for want of Compress and Bandage, or by the use of too cold Medicines.

*Of a Moist
Intemperies.*

A Moist Intemperies, is either Habitual, or depends on the weakness of the Parts; and frequently is occasioned by wet and foggy weather, or the fault of Bandage, either retaining it, or not expelling and defending the Part from Influx.

*Of a dry
Intemperies.*

A Dry Intemperies may be occasioned, by exhausting the Spirits, by Chronick Disease, Hectical Indispositions, or too sparing Diet; or by emaciating the Part.

*The Diag-
nosticks.*

If the Intemperies be hot, the Ulcer and adjacent Parts are red, and a sensible Heat is perceived in the Ulcer. The Matter being sharp causes a pricking, burning, or itching in the Part. They are relieved by cooling, and exasperated, by hot Medicines.

In a Cold Intemperies the Ulcer is Livid and Pale, and the Flesh also livid and loose; and relieved by heating Medicines.

A Moist Intemperies is evident, by the great Humidity, and the Flesh spongy and flaccid.

Chap.III. Of Ulcers with Intemperies. 187

In a Dry Intemperies, the Habit of the Body is lean, and the Part affected Dry and Squalid, and the Lips of the Ulcer thin and lank.

Compound Intemperies may be known by the signs of the simple.

Ulcers attended with Intemperies are difficult of Cure, as the Intemperies requires time to remove it; and therefore the Dry Intemperies is the worst, requiring the longest time to relieve it. *Prognosticks.*

In the Cure of Ulcers with Intemperies, that Intemperies is to be removed, before success can be hoped for. Astringents and Repellents are proper to cool the Part, and defend it from the hot Humour. Also a cooling and moist Diet is to be observed. If there be a Plethora, Evacuations by Bleeding and Lenient Purging are Convenient. External Topicks ought to be cooling and moderately drying, to allay the heat and imbibe the hot sharp Parts, or dry up the Superfluous Moisture, as *Basil. cum præcip. rubr. Unguent. Diapompholyg. Tutia. album. Unguent. Plumbo: Calce.* which both correct the Heat by their evident Cooling Qualities, and absorb and imbibe the hot acrimonious Parts. To check the Intemperies of the Part, Defensatives may be applied, made of *Unguent. alb. camph. emp. diapalm. cum succis, Unguent. Refrig. Galen. Nutritum,* or *Populeon*, which with the addition of Wax may be made into Cerots, over which Compresses wrung out of Oxycrate, or red Wine, or *Suc. fol. plantag. polyg. lactuc. bars. Pastor. cum Acet. or flor. ros. rubr. balust. bac. myrt. sumach. &c.* Decocted in red Wine.

of a Cold
Intempe-
ries.

In the Cure of an Ulcer with a Cold Intemperies. Diet is to consist of such things as are of good Nourishment, and warming and corrected with spices. The Crude Humours are also to be discharged, by Purging, and the Constitution of the Blood and Serum, altered and corrected by proper Internal Medicines. External applications ought also to be warm and attenuating, to give vent to the crudities by perspiration, as *Decoct. Absinth. scabios. Agrim. salvia, beton. fl. cham. bac. Laur. Junip.* adding Wine or *Spr. Vin.* which is to be applyed hot with Stupes. The Ulcer ought to be dressed with Detergents, first to cleanse it of gross Humours or Phlegm, before it will incarn and cicatrize, as *Mundif. ex Apia. Paracels. Unguent Apost. laying Emp. Diachyl. Ireat. de Betonica, Barb. magn. or flos. Unguent.* over all, then Incarn and Cicatrize with Pledgits pressed out of a solution of *Sacchar. Saturn.* in Spirit of Wine.

Of a Moist
Intempe-
ries.

In the Cure of an Ulcer with moist Intemperies, the Diet is to be considered and tempered accordingly, and a *Decoct. Sarsaparil. sassoparil. Lign. Guaj. Rad. Chin. &c.* may be used for common Drink. Externally Astringent Repellents are proper to strengthen and contract the Part, that it may be less apt to receive superfluous Moisture. The Part may also be fomented with a Decoction of *Summit absint. fol. Beton, fl. ros. rubr. sum. rubi. bac. myrt. N. Cypress. balust. &c.* in Wine or Oxycrate, which likewise strengthens the part and discufs as well as repel superfluous Humours. In dressing the Ulcer it self, *Unguent. Diapompholyg. Tutia, Nutrit. alb. cam. desiccata rubr.* are convenient, or *R. plumb. Ust. Diapompholyg. lot. ana ℥i. ol. Myrt. et cera q. s.* or *R. Cadmia. ℥i. fs. erug. aris. combust. ana ℥ii. alum. fissilis. ℥ss. cera. Nou. ℥v. sev. arietis. q. s.*

Also *Aq. Calcis*, and *aq. Aluminosa*. are proper to dry up the superfluous Humidity in Ulcers or the Parts about them.

In the Cure of an Ulcer with Dry Intemperies, ^{of a Dry Intemperies.} the Intemperies is first to be removed; the Ulcer in the mean time being dressed with digestives and kept clean. The Diet ought to be such as is easy of Digestion, and affords good nourishment, and their Drink also plentiful and good, the Humours are to be encouraged to flow to the Part with Friction, warm Fomentations, Embrocations &c. which are to applied Warm till the Parts look red and begin to tumify. The Influx of Humours are also to be encouraged with Emollients, which may relax the Part and give way to the Influx of Moist Humours of such Fomentations ought to be made, and the Medicines applied afterwards ought to be of the same Nature, as *Rx suc. bismalv. parietar. ana ℥ii. ol. amygd. dulc. ℥vi. cera. q. s. f. Cerot.* The Ulcer is to be dressed with *Basilic.* and *præcipit. rubr.* with which, in different Proportions, you may also deterge and incarn, or *Rx Thur. Mastich. sarcocol ana ℥i. ol. Hyperici. ℥ii. Terebinth. Venet. ℥i. fs. cera. alb. q. s. m. f. Unguent.* In the Cure of these Ulcers care must be taken, not to make use of Applications too drying, lest the Intemperies in the Part be renewed again, and the Cure by that means prolonged. When the Ulcer is well digested, and deterged, proceed to incarn, and cicatrize with convenient Epuloticks.

C H A P. IV.

Of Ulcers with Pain.

*The Cause
of Pain in
Ulcers.*

When an Ulcer is attended with Pain it prolongs the Cure, and excites several Accidents, as Fever, want of rest, and exhausting of the Spirits.

The Causes of Pain, are a sharp Acrid Humour, corroding the Ulcer, and Inflaming the Parts about it; depending either on an Habitual ill Crass of the Serum; or acquired by the fault of digestion, vitiated by sharp and acrid Salts depraving the Natural ferment of the Stomach; or it may be occasioned by the ill use of external Applications; as for want of digesting the Ulcer in time, or by continuing the use of detergents too long.

Pain

Pain wants no other Diagnosticks than the Sensation of it, which is known by the Complaint of the Patient. Whence and from what Causes, that Pain proceeds will appear from the Symptoms.

In the removing of this Pain, the Intentions vary according to the Difference of the Cause. *The Intentions vary according to the Cause. Internals.* If it proceed from a Plethora or Cacochymia or both of them. Bleeding and Evacuation by Purging are requisite, to make a Revulsion, and to discharge Part of the peccant Matter, that the rest being more easily diluted, and altered, may relieve the Pain to which purpose, cooling Emulsions and Juleps and the use of Opiates, will contribute; as also a due Regimen in Eating and Drinking, &c.

Externally the Pain is to be removed by proper *Externals.* Anodynes. If it be Sanious, Digestion is to be promoted, and Lenients applyed to the Parts about the Ulcer, as *Nuc. sem. cydon. Psyllii, Althæa extract. in decoct. Malv. & farin. hord. Croc. cum Vitel. ov. exung. porcin. gallin.* in the form of Cataplasms, or with Wax, made into Cerots, or *Ceratum Galeni. Unguentum Populeon, Nutrit. alb. camph. or emp. de Bol.* some of which by their Lenient Qualitys, interpose their soft *Effluvia* betwixt the sharp particles of hot Humours, and by dulling their Edges allay the Pain; others, by their cooling Qualities and Astringency repel the hot Humour, and allay their violent ferment by cooling the Blood and Serum.

If

If the Pain proceed from hot acrid Humours corroding the Ulcer, it may be dressed with *Unguent. Diapompholyg.* or *Unguent. Tutia*, with *Basilicon*, and a little *precipitate*, with Compress wrung out of Oxycrate or red Wine; which will imbibe and allay the Heat of corrosive Parts in the Ulcer, and allay the heat of the Parts also, and by strengthening their Tone make them less subject to the Influx of those Humours.

If Pain be occasioned by fordid Humours in the Bottom of the Ulcer, it may be deterged with *Precipitate*, and thus the Cause being removed the Pain will be relieved.

CHAP.

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C H A P. V.

Of Ulcers with Fluxion.



S Pain, so Fluxion is commonly the Attendant of Ulcers.

The Causes of Fluxion are either the Quantity or Quality of the Humours, or the Fault of the Part affected. The Quantity of the Humours are the Occasion of

The Cause of Fluxion.

Fluxion, when by reason of a *Plethora*, the Vessels in general are Crowded with Humours, and much distended, so that if they be any way obstructed in their Motion, they presently distend and Tumify the Vessels in that Part, the rest of the Vessels being so full of Humours themselves, not to be able to receive the Humours obstructed in their free Passage in these; so an Ulcer having corroded and destroyed several Vessels, through which the Humours ought to Circulate, the large Vessels carry so much Blood into that Part, that the rest of the Vessels being already full, are not able to relieve these corroded Vessels, and consequently, they not only swell and tumify, but discharge a greater Quantity of Humours into the Cavity of the Ulcer. The Quality of the Humour may be said to be in fault, when by its viscidness it is apt to tumify in the Branches of the Corroded Vessels, though otherwise it might be repelled by the strength of those divided Vessels and be admitted into other Vessels; or the Quality of the Humour may be in fault, when by its sharp and corrosive Particles it

O

makes

makes so great an Erosion of the Vessels in the Ulcer, that they are wholly obstructed and hindered from making a discharge of Serum into the Cavity of the Ulcer, and consequently the Vessels being distended by both Blood and Serum and not able to repel them back, they consequently tumify the Vessels. But here I would have understood, that by Repulsion I do not mean an retrograde Motion of the Blood, but that the Tonic Stricture of the Vessels is not able to repel, and resist the farther Influx. But to proceed the Part affected may be the Occasion of Fluxion when by weakness of the Vessels, they are apt to give way to the Influx of Humours, and are easily distended and tumified; which they are more inclined to if in a depending Part.

The Diagnosticks.

The Signs of an Ulcer with Fluxion are the Tumour of the Lips and the Parts about it; and the Quantity of Excrement flowing from the Ulcer, as also Inflammation proportionable to the Quality of the Humour.

The Prognosticks.

Ulcers with Fluxion are always difficult to cure as the Fluxion is more or less.

Intentions of Cure to prevent Fluxion.

In the Cure of these Ulcers, the Intention vary according to the difference of the Cause. If Heat occasion it, the same Method is to be observed as in a hot Intemperies; If Pain, it is to be relieved by Lenients as in the Preceding Chapter. If a *Plethora* attend the Fluxion, Evacuation by Bleeding is requisite, and a slender Diet, keeping the Body open with Clysters. If the Quality of the Humours be in fault, Purging is convenient and proper Internals to correct and alter the Disposition of the Humours. If the Weakness of the Part is the Occasion by giving way to the Humour, it is to be strengthened, and the flux of Humours resisted by proper Astringents and such as are also cooling to allay the extra

dine

inary Heat, that is occasioned by the Fluxion,
fol. *Plantag. Polygon. sum. rubi, Equiset. Cort. Ulmi,*
or. Ros. rubr. bac. Myrt. balust. Nuc. gland. querc. Cy-
ss. gallar which may be boyled in oxycrate or
fine and applyed in stupes. Or *Aq. Aluminis* and
g. Calcis may be convenient, especially in strong
odies. Or, *Unguent. Nutrit. alb. Camphorat. de*
cativum rubr. Cerot. Galeni. Emp. de Minio or
Bolo may be applyed to the same Intention.

Whilst the Influx of Humours is thus preven- To correct
the Hu-
mours in-
ternally.
ed, it will be necessary to correct the Acrid ero-
ding Humour within, by proper Digestives, that
the Vessels tumified may be freed of the *faces*
made by Erosion, and no longer Obstructed; but
have Liberty freely to discharge that Serum,
which supplys the Matter of Excrement; by
which means the Tumified Vessels, by this dis-
charge, will be relaxed, and the Tumour aba-

The Ulcer being sufficiently digested, we are Other in-
tentions.
to proceed to deterge, which is to be done with
stronger detergents than are necessary in simple
ulcers, since the corroding Humour is more sharp
and acrid, and consequently must occasion a gross
slough, and a greater Quantity of *faces* to
obstruct the Extremities of the Vessels; yet they
ought not to consist of sharp biting Parts, but ra-
ther such as may check the Acrimony of the ero-
ding Humour.

The Ulcer deterged may be incarnated with the
following, *R. Terebinth Venet. ʒii sevi vaccini ʒi.*
amb. ust. ʒvi. tutia prap. C C. ust. ana ʒii. M. to
which may be added, *Thus Sarcocoll. or Rezina Pi-*
where the *Plumbum ust. Tuti prap. and C C.*
are not only drying, as they imbibe superflu-
ous Moisture, but cool, and likewise imbibe the
monious parts of the Serum, if any remains
uncorrected; whilst the Balsamick parts of the

196 *Of Ulcers with Hyperfarcosis.* Part. II.

Turpentine and Rezins, also soften and increase the Excrementitious moisture, and make it easy and soft and Balsamick upon the Ulcer, without disturbing Nature, whilst she incarns, without any sharp or biting Particles. The Ulcer incarnate is to be Cicatrized by proper Epuloticks.

CHAP. VI.

Of Ulcers with Hyperfarcosis.

The Definition and Cause.



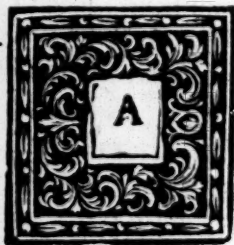
Hyperfarcosis is an Increase of loose spongy flesh made by a too quick Apposition of parts in incarnating. The Reason of which will appear from what I have said in the second Chapter of this second Part of the Nature of Incarnating; for when New flesh is suffered for want of Medicines sufficiently drying, to rise too fast, and the Serum of the Blood is not sufficiently absorbed, new Vessels are not only too much distended and the apposition of parts so fast, that they have not time enough to harden, by reason of too much Moisture; but the Serum contained in them, being uncorrected and eroding, loosens the Texture and Firmness, so that the whole appears loose and spongy.

Chap. VI. *Of Ulcers with Hyperfarcosis.* 197

A *Hyperfarcosis* is so evident of it self, that *The Diag-*
 ere is no need of any other Diagnosticks to *nofticks.*
 now it by, but its own Appearance.

In the Cure we are to consider the Cause; and *The Cure to*
 ft if Luxuriant flesh happens for want of Me- *to be varied*
 cines sufficiently drying, to consume the super *according*
 ous Moisture, that the new flesh might have *to the Cause.*
 ne to harden and and grow firm, then stronger
 edicines are to be made use of, as *Spong. ust. La-*
Tutia alumen ust. Merc. præcip. Or Bx. Nuc. gallar.
t. granator. ana ℥iii balust. ℥i. alum. ust. ℥i. pulv.
til. M. which sprinkled upon the Ulcers, it
 st be covered with dry pledgits, and bound up
 th a comprefs. Or *aq. Calcis* with a few grains
sublimate may be applyed. But the Vitriol
 one will not only keep down the loose Flesh, but
 o help to make a firm *Cicatrix.*

C H A P. VII.

*Of Ulcers with Caries in the Bones.**Of the Causes.**How a Caries is produced by an External Cause.*

N Ulcer is often complicated with a Caries or Rottenness of the Bone, the Caries being occasioned by the Ulcer; but sometimes the Caries is precedent to the Ulcer, and the Occasion of the Ulcer. From whence it appears that the Cause of a Caries is either external or internal. External, when by an Ulcer preceding the Bone is also eroded by the Acrimonious Matter of the Ulcer; Internal when the Erosion Originally begins in the Bone it self. How parts are Eroded by the acrimonious parts of sharp corrosive Humours hath been accounted for in the first Chapter of Ulcers in General; yet since the substance of a Bone is much different from the Nature of soft Parts, we shall briefly consider how the Bones themselves are corrupted by this sharp Humour. When the eroding Quality of this humour then hath penetrated so far as to corrupt the Flesh, and destroy and consume the Periosteum, the subtle acrimonious Parts gradually infiltrate themselves betwixt the Parts of the Bone and mixing with that Balsamick oily Mucilage which nourishes the Bones, betwixt it's Laminae they putrify and corrupt it, and make it rancid so that it acquires heterogeneous Parts, and no longer fit to nourish them, but perverted by these acrid Parts from the Ulcer, it becomes too subtle, so that it's parts are crowded into the pores

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of the Lamina of the Bones, and separate and divide their looser parts, so that the more firm and gross, loosing their Continuity become porous and spongy, whereas as long as it retained its sweet oily Mucilaginous Quality it supplied the Bones with a soft and inoffensive Juice. So *Linimentum Arcai* may be safely applyed to a Bone, whereas greasy Medicines, which have strong and rancid parts soon corrupt and putrify them; so the Juices in the soft Parts, by a moderate Fermentation and Digestion are concocted into wholesome Nourishment, but when by too high a degree of digestion they become fretting and corrosive, they destroy those Parts they ought to sustain; so the Sulphureous Parts of Fir Trees, by their Balsamick Parts, supple the brittle Parts of the Timber, whilst in their Natural State, but when by fire, their Parts are put into violent fermentative Motion, they presently destroy it.

Thus by the external Influence of corrosive Humours the Substance of a Bone may be made carious, but when by grossness, or any other Accident, the sweet oily Mucilage happens to obstruct betwixt the Lamina of the Bones, it presently corrupts and grows rancid, and frets and putrifies the substance of the Bones.

But the Bones often grow foul and carious, by other Accidents than those which Nature her self is subject to, as by being exposed to external Air, by which means the Superficies is not only affected by the sharp parts of the Air, but the external cold chills and coagulates the Oily Mucilage betwixt the Lamina of the Bone, and by this means occasions an Obstruction, and consequently putrification and erosion, which produces Caries.

Linimentum Arcai
why safely
applyed to
a Bone.

How a Caries is produced by an Internal Cause.

Other Concurring and accidental Causes of a Caries.

A Caries may likewise happen, when for want of due care, by a Wound or Bruise eroding Humours are collected, and corrupt the Bones that lye under them, or a Caries may also be occasioned, by the unskilful Use of external Applications.

The Diagnosticks.

The Signs of a Caries are various. If the Bone be bare, and it appears white and porous, it is a Sign the Caries is deeper than when it is black and hard. If the Bone lye deep and so that it cannot be tryed with a Probe, if it be carious, the Matter that flows from it will be fætid and oily. If a Bone be much corrupted, the Matter will be fætid, and the bone sink under the Probe. When the Bone is covered with flesh, if that Flesh be lax and white, it is a Sign of a Caries, especially if the Matter be fætid and oily. If Ulcers are of long Continuance, or hard to Cicatrize, and subject to frequent Eruptions, a Caries may be suspected.

The Prognosticks.

Ulcers with Caries are difficult to Cure, and more or less dangerous, as the great Joynts or heads of the Bones are affected, where Medicines proper to exfoliate, cannot safely be applied.

The Intention of Cure and first in respect of Diet, &c.

In the Cure of Ulcers with a Caries, a Regular Diet is to be observed, and since the Ulcer cannot heal till the Caries be removed, care must be taken to separate the Cariosity as soon as possible, but for as much as in doing of that the vitious Excrement of the Ulcer will be apt to disturb the Cure, Care must be also taken to correct the Qualities of the peccant Matter that offends the Ulcer, and in order to that it will be requisite to make a sufficient discharge, first by Bleeding, and then by proper Purgatives, by which means the Quantity of the peccant Matter being discharged, and the Vessels emptyed, there will be more room for Alteratives to correct the vitious Qualities of the

Ch.VII. Of Ulcers with Caries in the Bones. 201

the humour remaining in the Mass of Blood ; and a large Influx of Humours upon the Ulcered Part will be prevented , and the Caries managed with less Interruption.

The Body being thus prepared for the Work, *What is to be done in Respect of the Caries Externally.* it will be requisite to lay the Carious Bone bare, that proper Medicines may be applyed to it , to promote Exfoliation. To which end, if the Orifice be small, it must be enlarged, and the rotten flesh, either scraped away, or consumed by Escharoticks, according to the extent of the Caries; but if large Vessels, Nerves or Tendons lye in the way, as in great Joynts and the hands and feet, the Ulcer must be dilated with prepared sponge or Gentian Root, till the Caries be laid bare ; but if the Vessels or Tendons lye so, that the Caries cannot be laid bare without dividing those Parts, the Inconveniency on both sides is to be considered, and the greater Evil to be avoided, and the Vessels divided, or the Caries neglected accordingly.

The Bone being laid bare, the extent and depth of the Caries is to be considered, and whether it be hard or soft ; as likewise the Nature of the Bone affected with it, and Medicines or Manual Operations, to be made use of accordingly ; As by Rasping or Actual Cantery.

If the Caries be superficial, moderate Medi- *What is to be done in a superficial Caries or when deep.* cines will dispose the Bone to thrust out a Callus and separate the Caries, as *rad. ireos peucedanum, rad. Aristolochia, myrrh. aloes, &c.* But if these be not sufficient *Euphorb. unguent. Egyptiac. ol. Caryophill. Spir. vitriol. Sulph. &c.* may be apply'd, but care must be taken to defend the sound parts from their *Acrimony*. These Exfoliating Medicines may be apply'd to the Bone with dossils of lint over them, to distend the lips of the Ulcer, and defend the Bone from the

the Moisture that might fall upon it from the Ulcer, which would hinder exfoliation, and corrupt the Bone; it being necessary in order to exfoliation to keep the bone dry. Where the bone lyes, so, that these Medicines cannot be well apply'd in the form of powder, they may be used in Spirit of Wine or mixed with *Unguent. Egyptiac.* or in the form of an Injection, as *Rx. Symphit. Maj. Gent. Aristolochia rotund. et long. rad. ireos ana ℥i. Fl. ros. rubr. sumach. balust. ana ℥ss. coq. in vin. alb. ad ℔ii Colat. add. Spr. Vin. ℥ii. mel. Resat. Egyptiac. q. s.* But very often if a *Caries* be but superficial, Nature her self will exfoliate without the help of Medicines, provided the Bone be kept dry.

The Spongy Bones in the Hands and Feet are to be kept bare with Dossils, as far as Carious; and if the whole be affected, it will in time separate, but will more speedily, if hastened and dried by an Actual Cautery. If the bone be carious only in the Middle, the carious part may be broke away with a pair of nippers, and the part dressed with the milder Exfoliators, and in a little time the *Caries* will separate, and the ends of the Bones will be united by a Callus.

Rugins or actual Cautery when requisite.

A Caution in Scraping the Bone.

If the *Caries* be in great Bones, and deep, and the Influx of Matter considerable, the best way will be to make use of Rugins or Actual Cautery. If it may easily become at to scrape, scraping is to be continued till the bone appears firm and of a ruddy Colour, but care must be taken lest you proceed too deep, and penetrate to the Marrow it self. When the *Caries* is scraped away the mild exfoliators above mention'd are proper, or *Rx. Terebinth. clar. ℥iv. Gum. Elem. ℥ii. Rez. pini. Mastich. ana ℥vi. Thuris Sarc. coll. ana ℥ii. M. super ignem.* apply it warm upon Lint and in a few days a Callus will begin to

Ch. VII. Of Ulcers with Caries in the Bones. 203

to shew it self in small grains ; and the small inequalities of the bone will separate and rise upon the Callus.

But if the Caries lye so deep that it cannot be scraped, it may be consumed with Actual Ca-^{Actual Cau-}tery, in order to which, if the Ulcer be narrow, ^{tery when} a Canula armed with emplaster, or oyled Cloath, ^{to be ap-}to defend the flesh, is to be placed upon the Ca-^{ply'd.}rious bone, and the Actual Cautey to be apply'd through it, so often as is necessary to consume the Caries ; the Canula being taken out to cool and the bone being cleansed whenever the actual Cautey is renewed ; upon the application of which, as the bone is more or less rotten, the humour will spurt out, the first time, but will be afterwards Dry, and the Bone may be perceived firm. This being done dress the bone ^{How the} with the whites of Eggs beaten up with the ^{Bone is to} Mucilage of Quinces extracted in aq. Germin ^{be dress'd} Querc. and the Ulcer and Scorched Lips with ^{after the} Unguent. Refrig. Galeni applying a Cerot of the ^{actual Cau-}same over all ; which dressings are to be conti-^{tery.}ued, till the heat of the Parts is abated ; and then the bone is to be dress'd with mild exfoliating Medicines, and the Ulcer kept open, till the Exfoliation is cast off ; then leave out the Dossils and the Ulcer will easily incarn and Cicatrize. If the Lips of the Ulcer be blistered, in applying the Cautey, they may be dress'd with Unguent. alb. or Tutia.

But there are some Bones which will not admit of actual Cautey, as the Bones of the Head, and Back, the latter of which will neither bare the Rugin nor sharp Medicines ; nor is the actual Cautey to be applied to the Sternum or Ribs, or the Os Calcis without a great deal of Caution.

Thus

204 *Of Ulcers with Caries in the Bones Part.II.*

Thus much being said of the method of curing a Caries ; since in the beginning, we have shewed how a Caries may be occasioned, it will not be amiss if we endeavour to shew how a Caries is cast off, and how external Applications promote exfoliation and the Generation of a Callus.

How Exfoliation is performed.

Since then, a Caries is a Solution of Continuity made in a hard part, as an Ulcer is in a soft one, by Erosion ; and that the eroding particles consume the solid parts, and corrupt the Natural Juices betwixt the Lamina of the Bones, we consider the eroding putrid humour to be comparatively the same as the corroding Humour in an Ulcer, which as long as uncorrected, still proceeds to corrode the parts under it; and as the corrosive humour acts in corroding the Bones in a similar manner, so the Carious Bone may be considered as the faces of the corroded Vessels ; and though it adheres to the sound Bone, yet is not the adhesion very firm, since the continuity is in a great measure destroyed ; so that in a Superficial Caries the corrupting and Corroding Qualities of the Humour being corrected ; Nature is easily assisted to separate the Slough and make an Exfoliation of the Caries. But when the Caries hath penetrated deep, the adhesion is stronger, being fastened in so many places, that Nature without the help of Cautery is not able to raise so great a Burthen, but when part of that difficulty is removed, she easily separates the rest.

How Medicines promote Exfoliation.

But to make it conceivable how Nature separates this Caries, and how Medicines contribute to assist her, we are to consider, besides the Nature of the Caries, the Qualities of Medicines, which appear to be either Resinous and bitter Aromaticks, as *rad gros Aristolochia*, *Aloes*, &c. or oleose

oleose Astringents, as *ol. garyoph.* and *Aegyptiac.* Now as the Humour is acrid and corroding we suppose, that the Rezinous parts of these Medicines mixing with the sharp corrosive humour, dull the Edges of them, and by entangling them amongst their smother parts not only inspissate and thicken this Humour, but prevent it's proceeding to corrode the Bone, so that it's form being changed by this mixture, it looses it's Qualities, and is no longer eroding. And whilst the Rezinous Qualities thus exert themselves, the Bitters help to prevent putrefaction, by preserving the mixture of the altered Humour; and the Aromatick Effluvia penetrating further, excite and cherish the Natural Heat in the sound parts, which being thus assisted and no longer affected with a Corrosive Humour, the sound Vessels issue out their Natural Juices; which since they cannot be received by the eroded Bone, whose Texture is destroyed, and pores full of this new mixed humour, they consequently interpose betwixt the sound and corroded parts, and so make a separation of the *Caries* and an Exfoliation.

From hence it appears how Rezinous and bitter Aromaticks assist in loosening a Caries, and making an Exfoliation: In the next place we shall consider the Effects of oleose and Astringents; which will easily be understood, if we consider, that oily Bodies which are not subject to grow Rancid, as *ol. Garyophyllor*, interposing betwixt acrid and fretting Particles will abate and alter their corrosive Effects; and since by altering and checking their eroding Parts, they make the Humour inoffensive to Nature, the Aromatick Effects of this Oyl, will likewise excite and renew the Natural Heat, and put Nature in the way to exert her self: And though *Aegyptiacum* hath no Aromatick Parts, yet by it's Astringency it both corrects

corrects the eroding Quality of the humour and prevents Putrefaction; and as Astringents bind up the Pores, they seem to preserve the Natural Heat of the Parts, by repelling and confining it from flying away.

*How a Cal-
lus is for-
med.*

Thus much of the Separation of a Caries, and the promoting of an Exfoliation. It remains, that we should shew, how a Callus is formed. A Callus then in a Bone seems to be a Natural Supply of Substance to fill up what was consumed by erosion, as flesh is made in an Ulcer to make up the loss of substance there; which we suppose to be generated much after the same manner, only the apposition of parts in a Bone is slower, and thrust out by degrees, the Number and Proportion of Vessels in respect of the Part being much more in a fleshy Part than in a Bone. I shall not need to transfer and repeat what I have said in the second Chapter of this second Part, of the nature of Incarning, but as I have there observed that upon the Use of Detergents, the Blood seems to stand in drops in the Extremities of the Vessels, so in the beginning of a Callus it first discovers it self in red specks upon the Part it rises from, which confirms me in my opinion the more in what I have said of the Nature of Incarning, *viz.* That the New flesh is formed by the Apposition of the parts of Blood. And that a Callus is so too, is evident from the Colour of it's first Origin and Beginning, which, as it is red, must needs be supplied by Vessels which convey a Substance of that Colour, and since it comes from the Sanguiferous Vessels, it may well be presumed, that a Callus is formed by an Apposition of the parts of the Blood.

Since

Ch. VII. Of Ulcers with Caries in the Bones. 207

Since then a Callus is generated by an Apposition of the Parts of Blood, issuing out of the Capillary Vessels in the Substance of the Bones, all one as the flesh that fills up a Wound or Ulcer, rises from the Vessels in the Substance of the Flesh; we shall briefly compare their Differences and endeavour to account for the Reason of those Differences.

*Difference
betwixt the
Generation
of a Callus
and of new
Flesh.*

And first the Flesh in an Ulcer seems to grow faster and looser than that which hardens into a Callus, first, because the Blood Vessels are not only more plentiful, and the Moisture greater; but also the Apposition of Parts is quicker proportionably; and consequently the Vessels have not so much time to harden.

Secondly, the Flesh which fills up an Ulcer continues soft, whereas the other grows firm and at the last hard. The former being less confined, as soon as it hath filled up the Cavity of the Ulcer, terminates in a Cuticle or thin Callus; whereas in the Callus, formed in Bones, the Vessels are formed by degrees and gradually compress each other, till at last, they are incapable of receiving any more blood, or of extending themselves any further, and then the Humours in them, not finding so free a regress as in the Substance of the Flesh, reductory Vessels being not so ready to receive it, it condenses and coagulates and hardens into a Callus along with the Compressed Vessels, which are more closely confined and have not so much liberty to extend themselves. When a Callus rises from the Extremities of two bones, they are gradually prolonged, till at last meeting, the Blood thrusting out on both sides mutually adheres, and condensing and hardening together, forms a perfect Continuity. If the Vessels thus hardening, the Blood condensing forms any Vacuity betwixt their Parts, it is instantly supplied with

a sufficient Quantity of Matter to possess the space, which condenses and indurates with the Rest. So a Scirrhus is indurated by a fresh supply and apposition of Parts.

CHAP. VIII.

Of Ulcers with Callous Lips.

*The Cause
of Callus
Lips.*



When Ulcers are long in Cure, they frequently contract Callous Lips which are hard and livid.

The Cause of this Callosity is a hot humour mixed with Phlegm which when it happens to stagnate about the Edges of the Ul-

cer, the hot Parts evaporate and disentangle themselves from the Phlegm, which for want of a Liquid to dilute it condenses, and hardens and forms a Callosity, sometimes it is condensed by the influence of the Air, or by cooling and drying Medicines.

*The Diag-
nosticks.*

They are evident by their own Appearance, and make the Ulcers they attend difficult of Cure which cannot heal without a Removal of the Callosity.

The Cure.

In the Cure of these Ulcers the Callous Lips are to be remedied as soon as possible, or kept down by compress and bandage, that they may cicatrize with the Ulcer. In order to the Removal of them Emollients and Discutients are convenient; as, *Rad. et fol. Althææ lilior. malvæ sem. lini et sanugreci, fl. Chammelilot. sambucæ*

with

with which the parts are to be fomented, and embrocated with *ol. amygd. dulc.* *Unguent. de Althaa, ol. lil. Lumbricorum.* The Lips of the Ulcer being thus fomented, and Embrocated Apply *Ceratum Refrigerans Galeni, Emp. de Mucilag. de Ranis cum Mercur. Diachyl. ireat.* or a plate of Lead rub'd with Mercury; or *Ceruss.* and *calx lot.* made up into a Paste with *axung. porcin.* with Compress and Bandage; but if Bandage cannot be conveniently made, the callosity must be removed either by Caustick or Knife, and healed even with the Ulcer. As for the Reason of the Method here prescribed by Lenients and Emollients, and how they perform their Effects, will appear from what hath been already said of them in the first Part of Tumours in General, and of *Scirrhus.*

CHAP. IX.

Of Putrid Ulcers.



Ulcers made sordid by the fluxion of sharp acrid Humours, as the Sordes increases degeneratè into putrid Ulcers, the matter growing fætid and rotting the Flesh.

The Original of Putrid Ulcers.

The Cause of these Ulcers is an ill depraved Crasis of the Serum, which depofes an acrid sharp Humour in the Ulcer, complicated with Mlegm. The hot Humour occasions an Intemperance in the part, and the Phlegm renders the

The Cause.

P

Ulcer

Ulcer sordid, where the sharp acrid particles lodging in the sordes, corrupts it and so the matter acquires a malignant Quality. Sordid Ulcers are sometimes occasioned by the ill use of Digestives thickening the Excrement of the Ulcer too much, or by the use of too strong detergents; but when these occasion putrid Ulcers there is a precedent ill Disposition of Serum in the Blood, which disposes these Ulcers to become Putrid. But sometimes they succeed malignant Fevers, the malignant humour growing gross and thick, its thinner parts, which diluted it, being consumed and spent by the heat of the Fever, and apt to obstruct in the external parts of the Body; where this acrimonious Phlegm presently Ulcerates, and produces a Corrosive putrid Ulcer.

The Diagnosis.

The signs are a viscous tough Excrement with great heat and pain; as the Corrosive Quality and the Sordes increase, it changes its Colour, and the Ulcer corrupts, and the matter stinks.

The Prognosis.

The Sordes hindering the discharge of Corroding Humour, it corrupts the part the more violently, and renders the Ulcer more putrid and if the Putrefaction be not checked, it terminates in a Gangrene and Sphacelus.

The Cure Internally.

In the Cure of these Ulcers, the ill disposition of the Humours is to be corrected, first by Convenient Diet; and evacuation to be made not only by bleeding, but the Viscous Humours are to be discharged by proper purging Medicines, as also the Disposition of the Blood is to be corrected by proper alteratives, and a decoction of *Sarsaparil. Lign. Guaj. Suffaphras,* &c. for common Drink.

Extern

External Applications are to be varied, according to the Quality and Circumstances of the Ulcer. If strong detergents occasioned the Ulcer to grow fordid, *Unguent. Basil. cum Mercur. Precipit.* or *Diapompholyg. mag.* with *Cerot. Refrig. Galen.* and a compress wrung out of *Oxyerate* may be proper. If Lenients occasion'd the *Sordes*, fill the Ulcer with *Precipitate*, with a pledgit of some moderate detergent over it, and the third day, when you are to dress it, the *sordes* will separate in a slough, and then after the use of moderate digestives you may incarnate. In Common putrid Ulcers, *Merc. precip. Rub. Zi. Mundif. Paracel. Zi.* with *alumen. ust.* and *Unguent. Apost.* is a proper detergent.

If the Ulcer be putrid, a Decoct of *Absinth.* &c. in a *Lixivium* will be proper to wash the part, which may resist putrefaction, or *Agyptiac.* dissolved in Spirit of Wine, the *Agypt* powerfully depressing the acrimonious corroding parts, whilst the Spirit of Wine preserve the Natural heat. And when this is done, the parts externally are to be defended from the influx of Humours.

If the Ulcer be so corrosive as to undermine the Lips, and render the Flesh soft and lax it is to be treated as a *Phagedana*. If it tend to mortification the same methods are proper as in a *Gangrana* and *Sphacelus*.

CHAP. X.

Of Phagedæna, and Noma.

*Definition
of a Phage
dæna.*

of a Noma



Phagedæna is a Corrosive Ulcer with tumify'd Lips consuming the adjacent Flesh.

Noma is a deep Corrosive Ulcer, which spreads and consumes the Flesh without Tumour, attended with Rottenness and Putrefaction.

Differences. These Tumours differ from one another, as the one hath Tumour without Putrefaction, and the other Putrefaction without Tumour. A Phagedæna differs from a Herpes, that beginning in the Skin with little moisture, and this affecting the Flesh, and abounding with Matter.

Of the Cause. These Tumours are occasioned by a depraved Corrosive Crasis of the Humours, which by long continuance become Habitual: How Corrosive humours are generated in the Body sufficiently appears from what hath been said already in the Chapter of Cancers, and elsewhere, so that there is no need to repeat it here, all that shall add is, that as the Humour is more Corrosive and virulent, it produces an Herpes Phagedæna, Noma or Cancer. Only in a Phagedæna the Corrosive humour seems to be complicated with Phlegm, which clogging the Vessels in the Ulcer, so that they cannot discharge themselves freely, they swell and tumify the Lips of the Ulcer, whereas in a Noma the Humour is so very corrosive, that it presently consumes the Part

it affects, spreading faster than a Phagedæna, and is full of a thin gleet, the serum of the Blood easily issuing out of the Extremities of the Vessels and thus preventing Tumours.

The Signs of these Tumours are apparent from their Description. As to the Prognosticks they are more or less malignant and dangerous according to the degrees of Virulency of the Humours, and as it is more or less Habitual. They frequently terminate in a *Sphacelus* or a *Cancer*. *The Diagnostick and Prognostick*

In the Cure, A Regular diet, and such as may breed good humours is convenient. And to correct and discharge this virulent Humour purging is proper, and such Medicines as may correct the malignant Crasis of the Blood and Serum; in which cases Mercurials are convenient, and medicinal Drinks made of *Sarsaparil. Lign. Guajac. rad. Chin. Sassafras, Santalum alb. citrin. ras. C. C. Ebor. &c.* External Applications are to be varied according to the different Qualities of the Corrosive humour. If the intemperies be hot, cooling and astringents are proper to allay the heat, and imbibe and absorb the Corrosive Humours which fret the part. As *Unguent. Tutia. de Plum. de calce, et de Lithargyro.* If these are too weak, the Lips ought to be scaryfy'd, that the humour may have vent, and applications have a better Effect upon the Parts; then washing the Ulcer with *aq. Calcis, aq. aluminosa, or decoct. Plantag. Equiset. rubi. fl. ros. rubr. balust. N. press. gallar. &c.* in Chalybeat Waters, sprinkling the following powders in the Ulcer, viz. *pulv. tutia. C. C. ust. pulv. ostreor. combust. corr. anator. or R. Unguent. diapompholyg. ℥ii. bol. Armen. sang. dracon. balust. ana ℥ss ol. ros. q. s. Unguent.* with a compress wrung out of some Astringent decoction, when these Ulcers are dressed thus, they are not to be opened over

once in three or four days, the Natural heat of the part being destroyed by exposing them often to the Air.

If the Ulcer Putrify and corrupt, Detergents which also correct the acrimony of the eroding humour, and prevent further Putrefaction are proper, as *Unguent. Egyptiac. precipitat.* or the putrify'd Flesh is to be consumed with Escharoticks or Actual Cautery, which also strengthens the Tone of the Part, by recovering the Natural Heat

CHAP XI.

Of Ulcers with Varices.

Of the Cause



If a part affected with a Varix happen to be ulcerated, it must be occasioned either by the Acrimony of the Humours, or some Fall or Bruise, and become inflamed, Painful and Tumefy'd.

Of the Cure

As to the Cure of a Varix it hath been delivered in the first part of Tumours. And as for the Ulcer digestives or detergents are to be used as there is occasion, the Excrement being sanious or soorid. If the Ulcerations be Superficial they may be dressed with *Unguentum Tutia*, applying a mixture of *Nutritum* and *Populeon* with Compress and Bandage. If digestives are necessary, *Basilicon* with *precipitate* may be made use of which will also deterge; fomentations are also

prop

proper, made of Astringents, to restrain the Influx of Humours and correct the sharpness of them. The Ulcer deterged, incarn with the following. *R. Thur. aloes ana ℥i. Assa fœtid ℥i. ss. mel. despumat. ℥vi. M. f. Unguentum.* The Ulcer incarned cicatrize with proper Epuoticks. If the Ulcer be in a part where a Laced Stocking sleeve, &c. may be made use of, it is much better than Rowling, since it makes a Smooth and Even pressure, and not only resists the influx of Humours in the time of the Ulcer, but supports the weak part and prevents a fresh relapse. If in these Ulcers, the Body be Plethoric and full of Humours Bleeding and Purging will be necessary in order to the Cure.

CH A P. XII.

Of Sinuous Ulcers.



AN Ulcer is called Sinuous from its Hollowness, and owes its *Description and Cause.* Origin either from the long Retention of Matter, which grows corrosive, and not having vent, at least sufficient discharge, the matter extends its Cavity betwixt the Interstices of the Muscles; or the Scituation of it may incline it to be Sinuous, when it happens in such a part, that the matter presses upon the Interstices of the Muscles, and inakes it's way betwixt the parts depending, for want of good Compress; or an Ulcer may be made Sinuous,

when an Abscess deen amongst the Muscles, in any of the Viscera thrusts it's Matter externally amongst the Muscles of the back or Abdomen, &c.

The differences. These Ulcers differ as they are long, deep or Superficial, or as they have only one or several sinus's; they differ from a Fistula, that being callous in its Cavity, and a Sinuous Ulcer only about the Edges, and not always Callous there.

The Diagnostics. Sinuous Ulcers may be known by the Nature of the discharge, the use of a Probe or Wax Candle; and the largeness of it may be Judged of by the Quantity of the discharged Matter.

The Prognosticks. Sinuous Ulcers of long Continuance are difficult of cure, the part being weakned by the long influx of Superfluous Humours. If the Sinus run under a Joynt Nerve or Tendon, so that it cannot be safely laid open, the Cure is the more difficult. If the matter be transfered from an Internal part, the part within must be cured before the Ulcer will heal. If the sinus and it's Discharge be small and may safely and easily be laid open, the cure will be the easier. If the figure of an Ulcer be orbicular, it retards the cure and ought to be altered if possible.

The Intention of Cure. In the cure there are four Intentions. The first Respects a due Regimen in Diet, and the rest of the Non-Naturals, consisting of such things as yield no crude Superfluous Moisture.

The Second. The second Respects the Disposition and Crassness of the Humours, which are to be partly discharged by bleeding and purging as Occasion shall require. The humours remaining are to be corrected with Medicinal Diet, drinks of Sarsa, &c. by which the Superfluous Moisture is dried up and discharged by perspiration; the Blood is to be corrected also by alteratives which may cleanse and purify the indisposed Humours.

The Third Intention is to prevent the Influx *The Third.*
of Humours into the part, by Revulsion, Repul-
sion, &c.

The Fourth Intention is to cure the Ulcer and *The Fourth*
remove the Accidents that may attend it, as Pain, *Intention.*
Inflammation, &c. The first thing to be taken
care of is, that the matter may have a free dis-
charge; therefore if the Orifice be in the decli-
ning part of the Sinus, it must be enlarged to
give sufficient vent, but if the Sinus runs below the
Orifice, another is to be made by Knife or Caustick
in the most declining Part; and the Sinus above
will soon be disposed to heal. When the Sinus
runs under Vessels, where a New Orifice cannot
be made for it's Discharge, the Position of the
Part is to be altered, so as to dispose it to run
out of the first Orifice; and the matter is to be
forced out of the Sinus by Compress and Bandage
towards the Orifice, to promote it's discharge.

The Ulcer being thus disposed to discharge the
matter that flows from it, as it is more or less
foul, so Detergents are to be made use of accord-
ingly strong or weak, as *Unguent. Apostolor.*
Mundificativ. Paracels. ex Apio. without or with
an Addition of *precipit. rubr.* If the Sinuosity
requires injections, the following may be made
use of *R. Summit. Cent. min. agrimony, Equiset.*
impinel. ana M. Rad. Aristolochia rotund. irid.
ana ℥ii. myrrh Sarcocol ana ℥iii. coq. in aq. font.
℥ii. Collat. add. Spin. Vini. ℥iv. mel. Rosar. q. s.
Or ul. Terebinth. and Tinct. Myrrh injected will
restrain by their Astringency the influx of Hu-
mours, and dispose the Ulcer the better to ag-
grinate. If the matter flows from an Abscess
within the Body, Injections are not convenient,
except there be a way ready for their discharge;
which may be made by a *Canula*; or a Pea hung at a
thread, by which the Orifice will be kept open till
the

218 Of Sinuous Ulcers and Fistula in Ano Part. II.

the Ulcer within heals, and then if you leave out the Pea, the External Ulcer will heal also.

Whilst the Cure is thus promoted by the use of Internal Medicines the part is frequently to be fomented with a Decoction of *Summit. Absinth. Marjoran. Hyperici, beton. fl. Cham. ros. rubr. balust. bac. Myrt. &c.* in Wine or Water, adding Spirit of Wine or Brandy to the decoction, which will preserve the Natural Heat of the part, and strengthen it's Tone, and help to dispose the matter in the Ulcer the better to digestion, and incline the parts separated by the Sinuosity to unite and recover their Continuity.

CHAP. XIII.

Of Sinuous Ulcers and Fistula in Ano.

The Origin
of Fistulas



Sinuous Ulcers in Ano, by their long Continuance become Callosous, and so degenerate into Fistulæ. They proceed either from Abscesses made by the Piles or Phymous Tumours about the Muscles of the Anus.

Those which proceed from Internal Piles, gradually extend their Sinus betwixt the Coats of the *Intestinum Rectum* down to the Verge of the Anus, where they discharge a thin gleet at a small pin-hole, at the first, without any pain, but in time is attended with Itching, and sometime Excoriation and Rhagades. These sinus's at the

Ch. XIII. Of Sinuous Ulcers and Fistula in Ano. 219

last spread outwards, and grow Callous, the External Orifice being Small and Contracted as well as hard, scarce admitting the entrance of a small Probe.

These Fistula's which are occasioned by Phymous abscesses, gradually insinuate the matter betwixt the Interstices of the Muscles *Glutai*, or towards the Neck of the Bladder, and sometimes into the *Pelvis*: these are very painful, and discharge a purulent matter according to the largeness of their Cavity; and at the last grow Callous and Fistulous.

These Fistula's are Discovered by the use of a *The Diag-* probe which if passed into the first kind of Sinus's, *nosticks.* you may perceive it all along to the Orifice which was first made by the Piles, if you put your finger up the Anus. The other kind discharge their Matter by Stool at the first, and at length make their own way out externally, more or less distant from the Anus, according to their first Origin in the Intestins.

Sinuous Ulcers arising from the Piles are healthful, and ought not to be cured if they are not very *The Prog-* troublesome and painful. But those that follow *nosticks.* Phymous Abscesses are dangerous and difficult of Cure; especially if the Orifice lye far from the Anus, so that they cannot be safely laid open.

Sinuous Ulcers in time grow Callous. If the Callosity runs superficially upwards by the *Rectum* out a little way, they are easily cured; but when they are extended so far that they cannot be laid open the whole Length, the matter flowing from the Upper part, will hinder the Lower part from healing. If a *Fistula* penetrate beyond the Muscles of the Anus, and be cured by opening it, the retentive faculty will be impaired; and if the *sphincter* be divided, the Retention is wholly destroyed

220 *Of Sinuous Ulcers and Fistula in Ano. Part. II.*

stroyed. In Bodies which are Cacochymical, that ill disposition is to be remedied and cured, before the *Fistula* can be either safely, or cured at all.

The Palliative Cure.

The Cure of these *Fistula's* is either Palliative or Perfect. The Palliative cure is of use, when the *Fistula* being neither painful nor troublesome, ought to be kept open for the discharge of peccant Humours, the Sinus being small and terminating in the Verge of the Anus. If the Orifice incline to tumify and obstruct the discharge of the matter, by the Contraction of the Callus, that Callus is to be removed by a Caustick; and when the slough is separated the Orifice may be kept open as an Issue. To prevent Excoriation by the humour that flows out, a pledgit of tow may be kept close to the Orifice to imbibe the matter, or the Pledgit may be spread with some *Lenient Unguent*.

Of the Perfect Cure.

In order to the cure if the Sinus be some distance from the Anus; it is first to be laid open to the Anus, and cured again, before that in Ano is to be divided. But first the Body is to be cleansed of all Chacomical Humours which might flow to the part and disturb the Cure; which is to be done by Bleeding, Purging, and Internal Alteratives. A Regular Diet is also to be observed, not only to prevent the flux of Humours to the Part, but also to keep the Excrements of a due consistence, that the Cure may not be disturbed by them in frequent going to stool; therefore if there be a Looseness, that must first be cured, before the Sinus is divided.

Ch. XIII. Of Sinuous Ulcers and Fistula in Ano. 221

A Fistula in Ano is to be laid open either by *A Fistula*
Ligature or Incision. The Ligature is made of *to be laid*
twisted brown thread or stitching silk, which is *open by*
not to be too thick lest it bruises the Flesh in cut- *Ligature or*
ting it, The Needle with which it is passed, ought *Incision.*
to be answerable to the Circumstances of the
Sinus. When the Intestine is penetrated by the
Sinus, the Ligature may be passed with a Leaden
Needle, or a Silver-wire Probe, or a searching
Candle. If the Sinus do not penetrate, the Needle
must be sharp at the end to penetrate the Intestin;
and pliant, that it may answer the turning of the
Sinus. If the Sinus lye high and be crooked, the
Needle may be passed through a convenient Ca-
nula which will Strengthen and Support it, and
prevent it breaking as it is thrust through the
Intestin.

In order to the Performing of this Operation, *The method*
the Fistula is to be searched with a Probe, and your *of perform-*
finger to be put up the *Intestinum Rectum*, to dis- *ing it by*
cover the distance of the Sinus. If the Sinus be *Ligature.*
straight and the Callous considerable, it is first
to be dilated with *Gentian* Roots, and the Callus
to be removed with Cathereticks; but if that side
next the intestines only be Callous, the Callosity
is to be divided after the Fistula is laid open.
In order to lay the Fistula open the Needle is to
be passed up by one hand, whilst the point of
it is to be directed by the other, which is to be
above the point of the Needle whilst it penetrates.
The Needle be passed through a Canula, the
Canula is first to be placed with the end of it
against the finger which is in the *Rectum*, then
another holding the Canula pass the Needle
through the Gut, and as it is brought out by your
fingers the Canula is to be pulled off, the Needle
with the Ligature being brought out of the Anus.
Then cut away the Needle and tye the Ligature,
first

222 Of Sinuous Ulcers and Fistula in Ano. Part. II.

first with a single and then with a bow knot, placing a peice of Cloth or a Plaister betwixt the Skin and the Ligature, to hinder it from cutting on the outside, then place the Ligature on one side, that it may be out of the way of the Excrements going to stool. If the parts be heated in the Operation, they may be cooled with *ol. rosar. cum Vin austero*, or an injection of *Decoct. hord. cum sem. Cydon.* applying Externally *Unguent. rosar.* or *popul.* Every fourth day the Ligature is to be loosed and tyed tighter till it is cut through. If the Lips separated in the Anus lye high, they are to be taken down with a Cautick, that the Cicatrix may be smooth.

The method of laying it open by Incision. To lay the Sinus open by incision, a pair of probes and scissors are made use of; but care is to be taken lest the foulds of the Rugous Coat of the Rectum be cut. If the Sinus be short this is the best way being most speedy; but if the Sinus be deep the inner Coat will be more in danger of being cut besides the parts divided by incision will be apt to heal up before the Sinus is filled up, whereas, when they are divided by Ligature, the parts confused by such a Division are not so apt to cement, but gradually heal above, as the parts are divided below.

If there be any Excreescences about the Anus they are to be taken away before the Sinus is divided, lest the pain occasioned by the division, should cause them to swell and tumify, and disturb the Cure.

Whether the Sinus be divided by Ligature or Incision, when it is laid open, it is to be digested, incarned and cicatrized, as in other Ulcers.

C H A P. XIV.

Of an *Ægylops*.

Ægylops is an Ulcerated Tubercle *Descripti-*
in the internal Canthus of the *on.*
Eye. When it is without Ulce-
ration it is called Anchylops.
When it is Ulcerated it is apt to
grow Sinuous, and is called Fistula
Lachrymalis. It is sometimes Callous and fould
the Bone of the Nose.

The Cause of this Tumour is the same with *The Cause.*
others which affects the Glands. It is made ei-
ther by Fluxion or Congestion; And frequently
succeeding the small Pox.

When it is made by Congestion, the Tumour *The Diag-*
round without discolouring the skin. If they *nosicks.*
proceed from Fluxion, they are attended with
pain, Inflammation and Redness. Sometimes it be-
gins with a weeping in that corner, and disco-
vers it self with a redness in the Eye; and if pres-
sed upon, it issues out a mixed matter; part of
which is not unlike the white of an Egg. It
sometimes corrupts the bone, and is discharged
through the Nostrils, having a fætid Smell.

A Fistula Lachrymalis is very difficult to cure *The Prog-*
the parts being loose and spongy, and the Eye *nosicks.*
very Sensible; which makes it very subject to
pain and Fluxion, especially when sharp Medi-
cines are applyed. Those which are of small
standing and open, are easy of Cure. If the Gland
is Ulcerated and the Bone Carious, the cure is
more difficult.

The

The Indica-
tions of
Cure.

The Indications of cure vary according to the Circumstances of the disease. In the beginning Bleeding and Purging are necessary, and such internal Medicines as may correct the ill disposition of the Blood, or such Humours as may affect the part, observing a due Regimen in Diet.

What Ex-
ternals are
 requisite.

Externally Repellents are necessary, which may prevent Fluxion. As *aq. portulac. plantag. Lactuc. Equiset. solan. Sperm. Ranar. cum bol. Armen. Lupis Calaminar. and Sachar. Saturni, &c.* making derivation also by *Empl. de Mastich. Tacamahac &c.* apply'd to the Temples. If the Tumour increase with pain and tension, it may be fomented with Discutients. As *summ. Absinth. fl. Sambuc. Ruta,* or *Cataplasms* may be made by an Addition of *farin. Orobi Lentium, &c.* If it tend to supuration, digestion may be promoted with Emollient digestives. As *Rad. lil. muc. sem. Albea. fenugrec. lini, farin. tritic. axung. porcin. &c.*

The matter digested, they are to be opened either by Incision or Caustick. If they be opened by Caustick, care must be taken to avoid hurting the Edge of the Eye-Lid, it being impossible to remedy it, and the Eye for the future being subject to water. When the Tumour is opened, digest with *ol. rosar. cum alb. ov.* apply'd on Pledgit, with *Cerat. Galleni* over it, and a Com. wrung out of some convenient Anodyne, *Astringent water,* as *aq. ros. sperm. Ranar. &c.* When digested, deterge with *mel. Rosar. or Svr. Siccis* or *R. mel. commun. Zii. virid. aris. 3i. Spt. Vin. 3iv. coq. ad tertie part. consumpt.*

balan. citr. ana 3i. Thur. myrrh ana 3i. Camph. gr. ii. infund. in aq. R. alb. ana 3iv. coq. ad tertie part. consumpt. will dispose it to incarn and cicatrize with *Tutia* or *aq. Calcis,* with good Compro

If the Ulcer be Fistulous and the Orifice small, it is to be dilated with *Gentian* Roots, and the Callosity is to be destroyed with detergents, or
R. fol. Ruta, chelidon min. agrimon. ana M. ss. infund. per noctem in Spr. Vin. ffls. collet. pro Iniectione, after the Injection apply the following upon Dossils *R. zinzib. ℥ii. virid. æri ℥ii. mel. Rosar. ℥iiii. acet. opt. ℥iv. coq. ad crassitiem*. If the Bone be Carious *R. Vitriol. ust. Cantharid. abscissis alis et Capidibus, calc. viv. sal. Armoniac. alum. roch. ana p. æq. cum urin. pueri inspissat*. Whilst these Medicines are using, the adjacent Parts are to be defended and Fluxion restrained by cooling *Astringents*.

But the best way is to destroy both the Callosity and Caries with Actual Caution, dressing the part afterwards, with *ol. ros. cum alb. ovi.* and a Compress dipped in the same over it; then digest and deterge, keeping the Orifice dilated with a Dossil pressed out of *Tinet. myrrh.* till the Bone exfoliates; then cicatrize with *Unguent. Tutia*, with good Compress.

The Use of
Actual
Caution.

Q

A



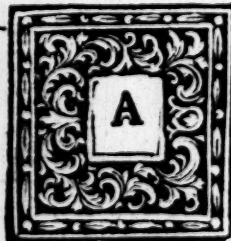
A
SYSTEM
 OF
 Rational Chirurgery, &c.

PART. III.

CHAP. I.

Of Wounds in General.

*The defini-
 tion.*



*The differ-
 ences.*

Wound is a Solution of Con-
 tinuity in any Part of the Body
 made suddenly, by any thing
 that Cuts or Tears, with a divi-
 sion of the Skin.

Wounds differ either as the
 are great or small, deep or sha-
 low, streight or crooked, &c. or, according
 the Nature of the Weapon they are made with
 as whether it be sharp or blunt, with a Sword
 Bulle

Bullet, or by Cutting, Pricking or Tearing. Differences which are more Essential are taken from the Part which receives the Wound, as whether it be Flesh, Skin, Vein, Artery, Nerves, Cartilage, Bone, &c. which differences are most properly essential, because the Intentions of Cure differ accordingly. Wounds differ likewise as they are Simple or Compound; with or without loss of Substance.

Wounds externally are visible and apparent. *The Diagnosis.* What Parts are wounded internally will appear by the Particular Symptoms that attend them; of which in their proper places, where Wounds of the several Parts are Particularly treated of.

Wounds are more or less dangerous according to the Nature of them, and their Largeness, *The Progress.* and the Parts wounded, as they are more or less noble, and according to the Symptoms and Accidents that attend them; as whether a Nerve, Artery, Vein, Tendon, &c. or any of the Viscera; or whether they be attended with Pain, Inflammation Hemorrhagy, Gangrene, Sphacelus, Spasmus, &c.

In the Cure of Wounds we are to consider, *The Intentions of Cure.* whether they are Simple or Compound. In the Cure of a Simple Wound, since it is a Solution of Continuity, we are to endeavour to unite the parts separated, in doing of which there are Five Intentions.

First, The taking away and removing all Extraneous Bodies, which interposing between *The First Intention.* the divided parts of the Wound, may obstruct the Union and Agglutination of them; as coagulated Blood, Hair, Dirt, peices of Bones, Cartilages, peices of Weapons, Rags, Splinters, &c.

The Second Intention. Secondly, The bringing of the Lips of the Wound together, which were separated ; which are to be even, that they may be the better disposed to unite.

The Third Intention. Thirdly, The Retaining of them so, when brought together, whilst Nature does her part in agglutinating them, and confirming that Cement which may preserve them in their Natural Figure.

The Fourth Intention. Fourthly, The Preserving the Natural Temperament and heat of the Part , that Nature may be the better able to perform her Part.

The Fifth Intention. Fifthly, The Preventing ill Accidents, which may pervert the Work of Nature; and the correcting such Accidents as have already seized the Part.

Other Intentions in Compound Wounds. But if a Wound be compound, and attended with loss of Substance, or Contusion. There are other Intentions to relieve those Accidents. If there be a loss of Substance, that Substance must be supply'd by Sarcoticks, which may promote incarning, and supply the loss of Substance. If Contusion happens, the Contused Flesh must be converted into Pus by Digestives.

How the first Intention is to be removed. But to proceed to the first Intention in the Cure of Simple Wounds. Which is the removing of Extraneous Bodies. In order to the performing of this Intention we are to consider, whether that Extraneous Substance which interposes betwixt the divided Parts, can be extracted or not also whether safely, and which is the best way. For sometimes a peice of a Weapon or Splint may stick so fast that it cannot be drawn out till the Parts about it Apostemate, and then it may be drawn out, or else is cast out by Nature.

But sometimes it happens, that a Weapon may be so lodged, that it may be dangerous to draw it out, the Patient dying if it be extracted: but where the Extraneous Substance may safely be taken away, the sooner it is done the better and more easily, before the Part is Tumify'd and Inflamed.

If the Weapon penetrate deep, passing thro' Vessels which are great and in Nervous Parts; and if the opposite be full of Veins, Arteries or Nerves, or a bone lye in the way, it is to be taken out the same way it went in. But if it hath passed above half through, and there be none of the Vessels or Parts just mentioned, in the way, it is better to thrust it quite through or make way by incision, than to tear and disturb the parts it went through in the Retraction. If the Weapon be fast in a bone, it may be loosened by moving it to and fro, or if it cannot be got out so, it is thought to be cut out. If it be fast in a Joynt betwixt the two Bones, Extention being made it will come out the easier. And if the Wound was made in any Particular Posture, the Body is to be put in that Posture, which will render the Extraction easier.

When the Weapon or other Extraneous Bodies are drawn out, it will be necessary to let the Wound Bleed, as the Strength or other Circumstances may allow; by this means the Blood which was heaped up in the small Vessels will be prevented, and if any, by the obstruction made by the pressure of Extraneous Bodies, was heaped up and coagulated in them, or in the Wound, it will be washed away, and all the Vessels clear, as well as the bottom of the Wound cleansed, and Apostemation prevented. When the Bleeding is stopped the Hair about the Wound is to be shaved away, if there be any, that it may not

disturb the Lips of the Wound or hinder the Applications of Medicines. That being done, the Wound is to be cleansed of clotted Blood with a Sponge dipt in red Wine oxycrate or Water; but if it lye deep and there be danger of occasioning a fresh Flux of Blood, it is better to leave it to be separated and thrown out by Digestion.

How the Second Intention is to be promoted.

The Second Intention is to bring the Lips of the Wound together, that they may be ready to unite; and since all extraneous Bodies are to be removed, we are not to crowd in others in the Room of them, by separating the Lips of the Wound with Pledgits or Dossils, which instead of assisting Nature, prolongs the Cure, and occasions ill Symptoms, as Pain, Inflammation, and Fluxion.

How the Lips of a Wound are to be brought together.

The Lips of the Wound are to be brought together gradually, and by degrees, that the Humours contained in the Lips of the Wound may be vented and give way to the Pressure, so that the Lips so brought together may be more easily retained: whereas if they were hastily pressed together, the Blood contained in the Tumify'd Lips, not having time to be discharg'd and press'd out, might be apt to Apostemate; or the swelled Lips violently put together, might tear out the stitches. If the Lips of the Wound are grown stiff with cold, they are to be softned, by fomenting them with Milk or warm Water, or they may be embrocated with Emollient Oyls till soft enough to be reunited. When the Lips of the Wound are brought together, care must be taken that they are equal, that they may be united and agglutinated in their natural evenness and smooth, which will sooner be done than when they lye one above another and unequal.

The

The Third Intention is to retain the Parts thus *How the Third Intention is to be promoted.*
 joined together; which is done either by stitching or Rowling, or both together.

If a Wound be small and in a Fleishly part, *How many sorts of Bandage.*
 and Longitudinal, according to the Tendency of the Fibres, it may be retained by Bandage; of which there are three sorts. First Incarnative or Agglutinative; Secondly Retentive, Thirdly Expulsive.

The Incarnative is made use of to bring the Lips of the Wound together, and to keep them in their Natural place, whilst they agglutinate and grow together. This Bandage is stricter than the Retentive, and Slacker than the Expulsive Bandage. The Incarnative Bandage is made with a double headed Rowler thus. The middle of the Rowler being placed on that side of the Part which is opposite to the Wound, the two ends are to be brought together on each side of the Wound, by which it's Lips will be brought close; then having taken a turn or two about the Wound, one end is to be Rowled downwards and the other upwards, by which means, the Blood and other Humours are not only pressed out of the Wounded part, but the Influx of Humours prevented. Where it is to be observed, that so many turns are to be taken with the Rowler, as are sufficient to restrain the Flux of Blood, and to defend the Wound from the Influence of External Air. As likewise care is to be taken, not to Rowl too hard, lest you intercept the Spirits, or obstruct the Circulation of the Humours.

Of Reten-
tive Ban-
dage and
how it is to
be made.

Retentive Bandage is serviceable only to fasten the dressings, and to keep them close to the Wound; for which Reason it needs not be very strict, nor too slack; for if so, it cannot be call'd retentive. This Bandage is chiefly of use in Wounds of the Head; but may be sufficient in other places where the Wounds are small, and there is neither danger of a Flux of Blood, or of the Influx of Humours.

Of Expul-
sive Bandage
and the
manner of
making it.

Expulsive Bandage is made with a Single headed Rower, and is chiefly of use in Fistulous and Sinuous Ulcers, to expel the Humours and drive them out of the Orifice, or to prevent the Sins from enlarging it self, or to keep the Parts close whilst they unite. The use of it in Wounds is to press the Humours out of the Wounded part if Superfluous, or to prevent the Influx of more. But otherwise it may be prejudicial and obstruct the motion and Natural Influx of the Blood and it's free reflux, by which the part may be deprived of it's Nourishment and Emaciated, therefore care is to be taken that it be not made too Strict. When it is necessary to be made, you must begin below the wounded part, and Rowl upwards; first you must Rowl strict, but as you come nearer the Wound Rowl easier; when you come up to the Wound, if you design to press the Humours out of the Part, Rowl easy a turn or two and then Harder, and so continue it up above the Wound to prevent the Descent and Influx of Humours.

Other sorts
of Bandage.

To these some add four other sorts of Rowling, as First *Fasciam Disjunctionis*, by which the parts are kept asunder, and from preternaturally growing together, as when the fingers have lost the Cutis. The Second is, *Fascia Directionis*, by which a crooked part is made streight, or a part preternaturally streight is reduced to it's

it's Natural Figure. The Third is *Fascia Apostema faciens*. By which the matter is encouraged and detained in some particular place, lest it should fall upon some other more Noble. The Fourth is, *Fascia Apostema prohibens*, which is expulsive Bandage.

As to the Nature of Rowlers they are to be made of old strong and even Cloth, without any Hem or Seam, that they may lye smooth and easy upon the Part. They are also to be of a convenient Length, according to the bigness of the Part, and as more or less turns are requisite, as also according to the different seasons of the Year, more turns being necessary in the Winter and cold weather, to keep the Part warm and to defend it from external cold, which makes a Wound crude and full of indigested Humours. As to the Breadth, they are to be proportionable to the part, where they are to be made use of, as for a thigh, they are to be broader than for a Leg, and for an Arm than for a finger; but a moderate proportionable breadth is to be used in all, since a narrow Rowler will Rowl more smooth and even on any part than a broad one, which is apt to press upon and indent the part with it's edges, if too broad; especially a Leg, which being of unequal Circumferences the Rowler is apt to press more with one edge than another. When the Rowler is bound about the part, it is to be made fast where you may easily come at it again to loose it, being neither made fast upon the Wound, which will be troublesome to the Patient, nor is it to be tyed, lest it make the part it lyes upon uneasy.

But the Lips of a Wound are not only to be kept together by Rowling, but likewise by Sutures; of which there are three kinds. viz. The Carnitive, The Retentive, and the Conserver.

The

*The First
sort.*

The first is most commonly used, and is performed by making several Stitches at a convenient distance one from another, which are to be closer or may be more distant, as the Lips of the Wound require more or less force to keep them together.

The Second.

The Second is Glovers Stitch, which is most necessary in great fluxes of Blood, where the parts are to be brought close to one another.

The Third.

The third is the most Useful in great Wounds, where the Parts are difficult to be kept together, and apt to break other Stitches; It is performed as in Hair Lips with pins and needles.

*The manner
of Stitch-
ing the Pe-
ritoneum.*

Besides these three, there is another Stitch which is convenient in the Wounds of the Belly; which is, to take up the Peritoneum on one side, and leave it on the other by turns; by which means the Peritoneum is united with the Musculous Flesh, which would otherwise lye open, and the Patient be apt to a Rupture. The Thread made use of on this Occasion must be strong, round and white, that it may be sufficient to retain the separated Parts without breaking.

*The manner
of stitching.*

In Stitching of Wounds, the Stitches are to be at a Convenient Distance. In the stitching of common Wounds they are to be made according to the Length of the Wound, about a fingers breadth distant from one another. As for the time they are to be taken out again, it ought to be sooner or later as the Parts agglutinate; which is according to the difference of Constitutions and the goodness of the habit of Body. In the face they ought to be taken out sooner than in other parts lest they should cut the Skin and leave Scars in the face; but that danger may be prevented by making use of the dry Stitches. They are made with little pieces of Linnen Cloth of a triangular or quadrangular figure spread with a mixture

mixture of *Sang. Dracon. Thuris, Aloes, sarin. trit. gum. tragacanth. ana. part eq. cum alb. ov.* of such a Consistence that they may stick fast to the Skin: they are to be applied at a convenient Distance, and when they are dried on, the Lips of the Wound are to be brought together and so retained.

The Fourth Intention is to preserve the Natural Temperament of the Part, that Nature may not be disturbed in performing her part, which is to unite the separated parts; and that is done either without, or with a Medium: when it is done without a Medium, it is called *Symphysis* or Curing Wounds by the first Intention: when a Medium interposes it is called *Syssarcosis* or curing by the Second Intention.

But whether a Wound is to be cured by the first Intention or the Second, Since Agglutination and Incarning are both the Work of Nature, it is requisite that the Part should be kept clear of ill disposed and vitiated Humours, which might destroy it's Natural Temper, and disturb and pervert Nature in her Work: And since the Temper of the part cannot be preserved if there be an Intemperies of the whole, if there be any vitious or depraved humours in the Body, they are to be discharged by proper Evacuations and corrected and brought to their Natural Crasis by proper Alteratives, that Nature may either Agglutinate or Incarn with the assistance of proper external Applications.

And first in order to preserve the temper of the Part and restore or continue the due Crasis of the Humours, it is requisite the Patient should observe such a Regimen in Diet, as may be consistent with the Constitution of his Body, and the Nature and Symtoms, or other Accidents that attend the Wound; Yet the Course of Nature is not wholly to be altered, that being the way rather

How the Fourth Intention is performed.

The Temper of the part how to be preserved.

Diet.

ther to occasion than correct an Intemperies, therefore respect is to be had to the Patients manner of Living, and if his Body be Plethorick, a moderate Diet is convenient, but if the Body be weak, such a Diet is convenient, as may afford good Juices and wholesome Strengthening Nourishment, that the Natural and Balsamick Crasis of the Blood may be preserved. Their Drink ought also to be good and such as may agree with their method of Living, only moderate in Quantity, avoiding all excess which may Inflamm the Blood, and consequently affect the Wound; Care is also to be taken to preserve a good digestion, that Crudities may not be heaped up and breed an Intemperies in the Part.

Bleeding
and Purg-
ing requi-
site.

But a Regular and convenient Diet is not only to be observed, but a sufficient discharge to be made (if the Body be Plethorick) by Bleeding; and if there be a Cacochymia or ill habit of Body Purgatives are also necessary; yet they are not to be strong, lest they heat and stir up humours, which being separated from the Blood and not discharged, may fall upon the Wounded part; they are therefore to be Mild and Lenient that they may discharge gently and without raising any ferment in the Humours, as *Cassia Tamarind. Manna Rhubarb. Senna with Sal prunella, or Elect. Lenitiv. Syr. de Rosis Solut. de Cichor. cum Rheo. &c.*

Vulnerary
drinks and
Alteratives
requisite.

Vulnerary Drinks are also requisite made with some of the following Herbs. Viz. *Comfry, Bugle, Ladies Mantle, Agrimony, Sanicle, Pauls betony, Fluellin, Periwinkle, Mugwort, Plantane, Horsetail, Adders tongue, Avena, Cinquefoil, Wild Tansie, Ver- vein, Ground Ivy, Golden rod, Herb. Trinity, Cen- tury, St. Johns wort, Snake weed, Knotgrass, Mouse- ear, Yarrow, Scordium, Strawberry Leaves and Roots, Tormentil, Bistort, Valerian, red Roses, &c.* boiled in Water or Wine with an Addition of Honey, or *Decoct. Traumatic.* in the London Dispensa-

tory.

tory. But these are chiefly used in Wounds of the Breast and Abdomen; but often in great wounds. Sometimes to the forementioned Vulnerary Drinks, *Sarsaparil. Lig. Guaj. &c.* may be added. Antiscorbutick Medicines are also useful, and maybe prescribed in the form of Electuaries, Powders or otherwise, as may be most grateful to the Patient.

Thus much for the Correcting of the Crasis To prevent of the Humours by the Use of Internals. But Inflamma- whilst Care is taken to correct the Indispositions tion. of the Humours. Regard is to be had to the Part it self; and since Pain is a common attendant of all Wounds and often occasions Inflammation, which exciting a fermentation in the Blood, causes hot humours to fall upon the Part and raise Tumour, those Accidents are to be prevented, by proper Applications in the beginning, which may preserve the Temper of the Part, and also promote Agglutination as *bol. Armen. Sang. Dracon. Thus, Aloes, Gum. Elem, Colophon. and Terebinth,* applying over them cooling Astringents which may allay the Pain, and resist the Influx of Humours. As Cloths dipt in the Juices of *Plantag. Equiset. millefol. vinc pervinc. Ulm.* or red Wine or Oxycrate, to which Juices, the powders of *fl. ros. rubr. balust. N. Cypres. gallar. farin. hord. et fabar. cum ol. matur. Olivar.* may be added as the Condition of the Part and Nature of the Constitution require.

In small Wounds a Pledgit of *Linimentum Ar-* small *cai* with Astringents over it to prevent Fluxion, wounds how with Bandage, is sufficient. But if the Wound to be dress- be great, when the Lips of the Wound are to be sed. brought together and also retained by Suture, sprinkle some of the following powder over the Wound, *Rx. Bol. Armen. Thuris, Sang. Dracon. ana part. eq.* applying also astringent agglutina-
 tives

tives mixed with the whites of Eggs over that, and a Compress wrung out of Oxycrate over all, with good Bandage. But lest the Lips of the wound should be torn and disturbed with taking these Astringents off next dressing, it may be convenient to apply over the powders sprinkled on the wound, a Pledgit spread with one of the following Unguents *R. Terebinth. vener. ℥iii Gum. Elem. ℥ii Sang. Dracon, Thuris Mastich. ana. ℥i. M. f. Unguent.* or *R. Terebinth. ℥ii. Resin pin. oliban Coloph. ana. ℥i. ss. Mastich. ℥i. Croci ℥i. cera ℥ii. ol. Hyper. q. s. f. Unguent.*

How Agglutination is performed by Nature.

By this Method, if the Lips of the Wound are kept together they will soon be agglutinated; but since Agglutination is the Work of Nature, and only assisted by Art, we shall consider, how Nature does her part, and how she is assisted by the use of Medicines. How Nature performs her part in this Respect may be easily conceived, by observing, how she behaves her self in supplying the loss of Substance, and uniting of other parts; which I have explained in the first Chapter of the second Part of Incarning of Ulcers; and in the Chapter of Ulcers with Caries, I have shewn; how a Callus is generated, from what has been said of both it appearing; that both of those Actions of Nature are performed by the Apposition of the sanguineous Particles of the Blood; which is evident from the progressive steps of Nature, and the Colour of the Substance newly made, however it's Texture may be altered afterwards, which may occasion a Change of Colour, since Colours are nothing but a different Reflection and Refraction of the beams of Light, variously modify'd in their Passage through the Air, as their motion is determined from the Superficies of a Body; which happens

happens to be different as the Texture of that Body is different ; Forms and Qualities arising from a various Contexture and Modification of the parts of matter, differing in size and figure; but this by the by : since then Nature both incarns and generates a Callus by the Apposition of the parts of the Blood, it is much more likely she should Agglutinate by the Apposition of the parts of the same, than by the Parts of the Serum, which are thinner and less apt and inclined to a solid form; but the parts of the Blood being Viscous and Tenacious, presently loose their fluidity when once they have lost their Circulation, which Agitation preserves their parts in Motion, and keeps them fluid; but when they come to the Extremities of the Vessels, and loose their motion, they presently shew their disposition to firmness, and solidity.

Since it is most likely that Agglutination is performed by the Apposition of the Parts of Blood, we suppose, that as when the Vessels are divided by a Wound, the Blood is extravasated into the Cavity of the Wound, or rather, to speak more properly betwixt the Interstices of the Lips, and is apt to coagulate and grow grumous by being exposed to external Cold, so when those Lips are brought together and the Orifices of the Vessels close to one another, the Blood being no longer exposed to external Cold, retains it's Proper and Natural fluidity, and being pressed out of the Extremities of the Vessels on one side, and having no Cavity to receive and lodge it it is protruded by successive Blood into the Orifices of the opposite Vessels, which are ready to receive it, the Blood contained in them having no retrograde Motion to oppose it's Entry, but being drove before it, the Blood continueth its natural Course and Circulates as it ought to do : but since
there

there is not a Continuity of these Vessels, but only a Contiguity, it is but Reasonable to suppose that some parts of the Blood, as it is squeezed out of one Vessel into another will be apt to insinuate themselves betwixt the divided Vessels, and when once these parts are got betwixt the Vessels, being there out of the Way of the moving Blood, and consequently loosing their Motion, they presently coagulate and assume a solid form, (for solids only differ from fluids as the Parts of the former are at rest, and the Parts of the latter are in continual Motion, or at least lye upon one another as to be easily put in Motion and disposed to give way to the Impression of another Body;) and since whilst they are fluid they are apt to give way to the Impression of a solid Body, and to insinuate themselves into the pores of it, we must conclude that these parts of Blood which lye betwixt the Vessels being pressed upon by other Blood contiguous to them, they will be crowded into the pores of the Extremities of the Vessels, and like solder melted in betwixt two Bodies it is to cement, they configure and form themselves according to the figure of those pores and being out of the way of Circulation, and loosing their Motion, they grow solid and firm, and like solder when cool, agglutinate the Extremities of the Vessels, and renew their Continuity. Thus Nature seems to perform the Work of Agglutination.

How Agglutination is hinder'd.

From what we have said it appears, how Nature performs her Part in agglutinating divided parts, as long as the Blood retains it's Natural Temper and Disposition, but when the Crasis of the Blood is perverted and vitiated and the Serum is either too thin, or sharp and corroding, Nature is obstructed and hindered in performing her Office. When it is too thin, interposi-

interposing betwixt the Parts of the Vessels and the Blood swims them off, and will not suffer them to rest betwixt the Extremities of the divided Vessels, but swimming betwixt the Vessels themselves, divides them, as well as hinders Agglutination: and when the serum is too sharp and fretting, it not only prevents the particles of the Blood from uniting the Vessels, but even corrodes and separates the parts of the Vessels, and destroys their Continuity and Texture, though confirmed by so long a Continuance, as the Life of the Person.

It appearing from hence, how Nature is obstructed in Agglutinating, as well as how she performs her part, it will be no difficult Matter to understand, how Medicines promote it, and assist Nature, especially if we consider their Qualities, and what Effect they may have upon the Humours internally or externally.

As for the Nature of Internals, from the Method here proposed it appears, that they are serviceable not only in altering and correcting the Qualities of depraved Humours, but likewise to the incrassating and thickning the Blood and Serum: For since Traumaticks consist of Medicines which incrassate the Serum and Blood, whereas they allay and correct the hot acrimony of the Parts by their cooling Quality, or incrassate and thicken the Humours by their Astringency; the Serum thus thickned is prevented from flowing so plentifully in betwixt the Lips of the wound; and having likewise lost it's sharp indurition; the particles of the Blood more easily cleave betwixt the Vessels, and Agglutinate, being rather swum off with it's superfluous Quantity, fretted and corroded by it's acrimony; the Blood being likewise thickned by these adventitious Qualities is disposed the sooner and more

R

easily

How Internal Medicines promote Agglutination.

easily to coagulate and adhere to, and consequently unite the Extremities of the Vessels, and restore their Continuity; and as Traumaticks have this Effect by their Cooling and Astringent Qualities, as well as to correct the Blood by their bitterness, so the decoction of *Sarsa* and *Guajacum* tend to thickning the serum by consuming and dispersing the thinnest part of it by *Diaphoresis*.

How Agglutination is promoted by Externals. As for Externals since they are either Astringent or Resinous and Gummy as well as Balsamick, they likewise by their Astringency promote

Agglutination by thickning and imbibing the superfluous thin serum, whilst the Resinous Balsamick parts not only incrassate the Blood, and Serum and render them more viscid also, and apt to cement the part, but likewise correct the sharp parts of the Serum, and prevent from fretting and disturbing the particles of Blood, disposed to agglutinate and unite the separated Parts.

What is to be done in Wounds with loss of Substance. Thus much of the Agglutination of Simple Wounds. But when a wound hath not only Solution of Continuity but also a loss of Substance and comes under the Denomination of a Compound wound, instead of being agglutinated that loss of Substance is to be repaired, by the Generation of new Flesh, and the Interval to be filled up by incarning.

Stitching requisite.

In order to the Union of these Parts, the Wound being first cleansed, the Lips of the Wound are to be brought as near as may be together, by the Incarnative Suture; with such a Number of Stitches as may be sufficient to retain them; and if the Incarnative Suture is not strong enough you may make use of the Conserver, passing Pins and Needles through the Lips of the Wound, with little Plates of Lead to defend them from tearing. But if

want of timely care the Lips of the Wound grow stiff and swelled, so that they cannot be brought together, they must be relaxed with Emollient Fomentions. *ex fol. et rad. Althæa, malv. viol. sem. lini. fenugrac. &c.* and if they are so deep, that their incarning at the bottom may be suspected, a declining Orifice must be left for the discharge of the Matter, which may be kept open by a small Tent, till the matter is digested, and then healed up according to the usual Intentions, leaving out the Tent that the Part may fill up.

But when Wounds are so large, that they cannot be brought together by Suture, they are to be brought to Digestion; and so disposed to incarn: In such Cases the following Digestive may be proper. *R. Terebinth. ℥ii. farin. hord. ℥vi. Thuris ℥i. M. cum Vitel. ov.* When the Wound is sufficiently Digested deterge with *Mundificativ. Paracels.* Or the following from *Quercetan* which will also incarn. *R. fol. Plantag. ana M. i. iros. rub. P. ii. Vin. rub. ℥viii. Coq. Medietat. Colat. add. Sacchar. rubr. ℥ii. Terebinth. ℥i. farin. Junip. & Orebi ana ℥vi. Aleo Myrrh. ana ℥i. decoq. rursus & addend. Cera. q. reduc. ad form. Unguent.* The Part ought likewise to be Fomented every dressing with cloths wrung out of a Decoction of *fl. ros. br. Balust. N. Cypress, &c.* in red Wine, which will preserve the Natural Heat, and promote the Intentions both of Art and Nature. If the Wound be full of Maggots as these great Wounds often are, they are to be washed with Decoction of *Absinth. Card. Benedict. Scord. d. Gent. Myrrh. Aloes, &c.* which prevent Stretation and Corruption. But whilst the Wound is thus taken care of, and dressed with proper Medicines to recover the lost Substance,

the Influx of Humours must be prevented, by Bandage and External Applications ; which are both Cooling and Astringent, that they may temper the Heat of the Part, as well as repel the Humours which might flow upon it, the Humours are likewise to be diverted by Bleeding and Purging, and Corrected by proper Internals, as the Constitution and Temper of the Person shall indicate. And a due Regimen likewise is to be observed in Diet. When the Wound is sufficiently digested and deterged, we are then to incarn and cicatrize; as in other Cases where these common Intentions are required.

of Contused Wounds.

If a Wound be made by Contusion, either by a Fall or Blow ; the Contused Flesh is to be consumed by digestion. To which purpose *Basilicon* with *ol. Lumbricor.* warm, may be proper, Embrocating the Parts with *ol. Ros. myrt. &c. cum Aceto*, with a Restrictive over all, *ex bol. Arme Sang. Dracon. st. ros. rub. balust. &c. cum Aloë*. And if the Wound hath been made a Considerable time before it is dressed, it must be first Fomented with Discutients, to stir up and recover the Natural heat in the Part ; and Embrocations with warm Discutient Oyls. As *ol. Lumbricor. Cham. Rut. &c.* to prevent the Coagulation of the Humours in the bruised Vessel which will likewise promote and assist digestion and the Separation of the Contused Flesh. The Wound digested is to be deterged, incarnated and cicatrized, according to the common Intentions. If the Wound be deep, and the Orifice too narrow for the Discharge of the matter, must be enlarged ; and if Sinuous so that the matter cannot be discharged ; an Orifice is to be made in a declining Part, by Knife, Caustick or a Seton-Needle, as in Sinuous Ulcers, and dressed

ed with *Terebinth. cum alb. ov.* on a proportionable Tent; Embrocating the Part with *ol. Ros.* Myrt. &c. and applying *emp. de Bol.* over all, with good Compress and Bandage.

From what hath been said of Compound Wounds, whether by Incision or Contusion, appears, that the Intentions of Cure differ from the Intentions in Simple Wounds, the Loss of Substance being restored by digestion, detersion, and incarning as in Ulcers; since then we have given an Account of the Reason of Digestion, and the rest of those Intentions in the First Chapter of the Second Part of Ulcers in General, we shall not repeat them here, but proceed to:

The Fifth Intention in the Cure of Wounds, *Of the Fifth Intention in the Cure of Wounds* which is to prevent ill Accidents, and correct such as have already happened. As Hæmorrhagy, *Wounds which respect ill Accidents.* In, Fever, Intemperies, Convulsions, Syncope, *Alirium,* and Palsie.

Hæmorrhagy is an Accident incident more or less to all Wounds; when it happens in Simple Wounds, the way to stop it, is to bring the Lips of the Wound close together by Stitching, and applying Astringent powders mixed with Agglutinatives. As *Galens* powder of *Aloes P. j.* *uris P. ii.* and *Hares furis*, mixed with the white of an Egg, with Astringent powders over all, and good Compress and Bandage. If the Lips of the Wound cannot be brought together, the forementioned powders may be applied upon Pledgits or Dossils with Astringent mixtures over them, and good Compress and Bandage, or Pledgits or Dossils dipt in *ol. Terebinth.* may be applied instead of the former powders, afterwards placing the Part in a Convenient

Posture. When any large Vessels are Wounded, what Method is to be taken will appear in the next Chapter of the Wounds of Veins and Arteries.

of Pain.

If Pain attend a Wound it occasions Inflammation and Tumour, if not presently removed. To which end, when it happens to be considerable, Bleeding is necessary to empty the Vessels that there may be less Fluxion and force of Humours upon the Part; and that the Quantity of Humours being diminished, the rest may be cooled and tempered by being mixed with such things as may correct the hot Humours in the Blood. Anodynes also are proper, not only internally, but externally, as Fomentations and Emollient Cataplasms of *fol. & rad. Alibea malviolae. hyosciam. Thaps. fl. ros. cham. mel. senlin. fenugrec. cydon Psylli. papav. a.b. &c.* boiled in broth made of Sheeps Heads and Feet or Milk. In the beginning Cataplasms made of *farin. horfabar. fl. ros. rub. sambuci*, boyled in red Wine or Oxycrate, adding oyl of *Roses cham. lin. &c.* If inflamed *fol. hyosciam.* boyled in Milk, & crumbs of white-bread, with a new laid Egg and Saffron and oyl of *Roses* may be applied in the form of a Cataplasm. If it tend to supuration it is to be handled as a *Phlegmon*. If a Nerve be concerned, as the Wounds of the Nerves; and if for want of a free discharge of the Matter the Vent is to be given either by Knife or Caustic. How these Medicines relieve this Symptom hath been shewn in the First Part of Tumours which I need not repeat here.

If a hot Cholerick Serum occasion an Intem-^{Of a hot In-}peries in the Part, as in an *Erysipelas*, Unguent.^{temperies.}
Nutritum, *populeon*, *Refrigerans Galeni*, Unguent.
alb. camphorat. are proper or R. *suc. Plantagin.*
Solan. Semperviv. ana ℥i. Bol. Armen ℥s. Litharg.
in aq. Plantag. lot. & Tutia præp. una ℥i. ol. rosar.
omphac. nymph. ana ℥ii. acet. rosac. et cera q. s.
f. Unguent. If the Tumour be Oedematous,
 warm Discutient Fomentations are proper; as
fl. cham. melilot. Sambuc. aneth. Sem. fenugrac.
 &c. with good Bandage, to drive out the Humour
 attenuated by discussion, and support the relax-
 ed fibres that they admit no more. How these
 Medicines perform their Work, hath been
 shewn sufficiently in the Chapters of *Erysipelas*
 and *Oedema*.

Fever is a Common Attendant of Pain and In-^{Of a Fever}flammation, those Symptoms disordering the re-
 gular distribution of the Spirits, and raising a
 Fermentation & Extraordinary heat in the Blood.
 But if the Fever continue when the Pain and
 Inflammation are over, and be attended with
delirium and *Syncope*. The hot ill tempered
 Humours are to be discharged by Bleeding, *Ve-*
scatories, *Clysters* and *Lenient* Purges. The In-
 temperies of the Blood is also to be removed by
 cooling Juleps, Emulsions, &c. How the other
 symptoms of Gangrene, Convulsions, and Pal-
 se happen, and how they are to be remedied
 will be hereafter considered; and how the rest
 of the Symptoms are occasioned, and how
 remedied, and by what Medicines, hath been
 already considered; except the Reason of *Ve-*
scatories, which we shall here briefly ex-
 plain.

How Ves-
catories
raise Blis-
ters.

How Vesicatorys perform their Orifice and raise a Blister may easily be understood, if we Consider the Nature of *Cantharides*, and the Nature of the Parts they are to Work upon. And since *Cantharides* consist of Parts very pungent and hot, and are always applyed with something that is oily, Mucilaginous or Gummy, we suppose, that those Oily Mucilaginous or Gummy Bodies clog up the pores of the Cutis, and prevent the serum Separated by the Glands of the Cutis from being freely discharged through the pores of the Cuticula, except some of the finest Lympha; which being hindered from evaporating, is condensed and collected betwixt the Gummous Plaister and the Cuticula, where it is impregnated with the Volatile Corrosive pungent parts of the *Cantharides* in which they are dissolved; now tho' the Serum separated in the Glands of the Cutis, is too gross to pass thro' the pores of the Cuticula, yet the pungent Volatile Parts of the *Cantharides* do, and impregnate the Serum contained under the Cuticula with their sharp biting particles; which affecting the Nervous Papillæ occasion pain; and consequently warm and heat the parts; by which heat, as well as by the Volatile parts of the *Cantharides*, the Humours are rarified in the Cutis, that they are separated faster than they can be discharged by the pores of the Cuticula, which they by that means separate and raise a Blister; and that the Pungent Saline Parts of the *Cantharides* affect the serum in the Glands, or what is more difficult, the Blood in the Blood Vessels, is evident, since a great many by the use of Blisters, have been affected with Dysuria or a Strangury; which shows, that they do so penetrate and affect the Blood with the Volatile Parts, otherwise they could not be translated into another Part.

CHAP. II.

Of the Wounds of the Veins and Arteries.



When a Vein or Artery is wounded, they discharge so much Blood, that it is requisite they should be presently relieved.

Whether the blood flows from the Veins or the Arteries is easily discovered, by the manner of its flowing out. From an Artery it leaps out with a great deal of force, and by turns, according to the Pulsations of the Heart, and is of a florid Colour; whereas the Venal blood flows out with a constant strain, of a thinner consistence, and a darkish Colour.

Wounds of the Veins and Arteries How distinguished.

Wounds of the Veins are not dangerous, being cured by the Application of Galen's powder with the white of an Egg, and Restringtons over with Compress and Bandage. But if an Artery be wounded it is hard to stop, the blood being in a violent motion.

The Progress of the Wound.

IF

230 *Of the Wounds of the Veins, &c. Part. III.*

The Cure.

If wounds of the Arteries have neither loss of substance nor bruised Lips, the Lips are to be brought together, and the Arteries opposite to one another, and secured there with the Glovers stitch, with a strong waxed thred, applying the following over it, *R. Bol. armen. ℥iii. sang. dracon. thur. aloes. glutin. sic. ana. ℥i. gypsi. farin. volat. ana. ℥ss. hyp. coffe. acaciet. sumach. ana. ℥iii. M. cum alb. ovi.* upon which apply a Compress pressed out of Oxycrate or red Wine, then with a double Rowler take a turn or two about the place and rowl upwards and downwards to press the blood out of the Parts and to prevent fluxion. The Part is also to be put in a Convenient posture; the Body cool and quiet, and a slender diet to be used and the Patients drink cooling and Astringent, as *Aq. font. cum. acet. or sal prunel.* sweetned with Syrup of Coral, Pomgranates, Limons. or *R. Croc. martis. Essentia Corallor. ana. ℥i. ros. sic. et myrr. ana. ℥i. aq. papar. rhead. ℥iv. M. or decoct. hord. cum. sem. papav. alb et hyoscyam.* sweetned with Sugar of Roses; or *Laudanum* may be given as the strength of the Patient will bear it. Revulsion may also be made by bleeding, cupping or ligature, or dossils dipped in *ol. Terebinth* hot may be applyed to the bleeding Vessel, with good compress and bandage.

When the Wound is dressed it is not to be opened under five or six days, least the part bleed again, but if notwithstanding these endeavours to prevent it, the Vessel bleed again, if possible, the Artery is to be taken up and tyed, and dressed with Incarnatives, &c. as in an *Anurisma*. If the Vessel cannot be taken up, the Bleeding is to be stopped with Eschorotiks or Actual Cautey.

Before

Chap.II. Of the Wounds of the veins, &c. 251

Before Escharoticks are applyed, the wound is to be well cleansed, and then dossils may be applyed to the Bleeding Artery, dipt in the following powder *R. Thur. pulv. ℥ii. Aloes glut. sic. ana. ℥i. calcanth. ust. ℥ii. arsenic. ℥vi. gypsi. ℥iii.* this being applyed on lint, and Dossils dipt in *alb. ovi. compulv. galen.* the part is to be guarded by Desensitives, and bound up with good Bandage, or instead of the forementioned powder *Vitriol* powdered and tyed up in a fine rag may be applyed to the Artery, with convenient dressings over it. The next dressing, the Escharotick is to be left upon the Artery, and the wound incarned.

But if this is not effectual, the Artery is to be shrunk up with Actual Cautery, passed down to the bleeding Artery through a *Canula*, as in a *Caries*. The Cautery applyed and the ends of the Artery shrunk up, the Cauterised part is to be dressed with dossils dipt in *Mucilage of Quinces*, or *alb. ov.* embrocating the part with *oyl of Roses*, and a plaister of *Diachalcit. cum. suc. plantag.* over all; when the heat of the part is allwaged, digest, incarn, and cicatrize.

CHAP.

C H A P. III.

*Of the Wounds of the Nerves, Tendons,
and Ligaments.**The Diag-
nosticks.*

Nerves and Tendons are wounded either by Puncture or cut, If they are cut through they are irrecoverable; the signs of a Wound in these parts are great Pain and Inflammation; and Contraction, and Hardness in the Nerve or Tendon. If a Nerve is cut in two and divided; the part is more or less stupified and lame, as the Nerve is considerable. If a Nerve or Tendon be pricked a sudden and violent Pain ensues, with fainting, convulsions, and great Fluxion; and instead of Matter they issue out a thin gleet.

*The Prog-
nosticks.*

Wounds of the Nerves and Tendons are all Dangerous, but the Transverse ones more than those which are length-ways. The Wounds of the Nerves are more violent and sudden than those of the Tendons.

The Cure.

In the Cure of these Wounds we are to consider, whether the Nerve or Tendon lye bare, or covered with the Skin; if covered, they are to be laid bare, by dividing the Skin or Membranes that cover them, that Medicines may be applied to the part affected; which ought to consist of parts which are warm and very Subtle to preserve the Natural heat of the Parts, and dry up that Gleet that issues from them. In the Beginning oyl of *Roses* with *bay salt* dropt hot in the part, will be sufficient, with a Pledgit of *Basil*

Ch.III. Of the Wounds of the Nerves, &c. 253

con over it as a Lenient to assuage the Pain and mollifie the part; also Embrocations with *ol. Lumbricorum*, will be proper to discuss the Humours which might settle about the part and tumify; and *Emplast. de Bolo.* over all to defend the Parts from the Influx of Humours. If the Wound be attended with much tumour and inflammation, the following Cataplasm may be applyed *R. far. bord. et fabar. ana. ℥iv. sem. lin. fenugrac. ana. ℥i. fl. ros. rub. sambuci, sum. absinth. ana. ℥iii. coq. in Vin. vel. lixiv. addend. Oxymel. ℥iii. ol. Ros. ℥i.* which by it's emollient Qualities will soften the Tumour, and by relaxing the parts assuage the Pain and Inflammation, whilst the discutients, attenuate the humours settled in the Tumour; and the Astringents contracting the Parts contribute to the expelling of them which is promoted by moderate Bandage. If the Pain be violent it is to be renewed twice a day. When stronger Medicines are required to dry up the thin gleet *ol. Terebinth. Bals. Sulph. Terebint. ol. Rut. Sabin. Scorp. eneth.* may be used by themselves or mixed with *Bals. Lucatel.* or *R. ol. Sabin. Terebinth. ℥ii. M.* But care is to be taken that the Medicines are neither too hot nor too cold. If they are too hot, the Part will itch and smart and the Lips of the Wound open; if too Cold the Gleet will continue or increase; but if the Medicines are agreeable with the Part; they will affect it with a Moderate Heat, If the hardness abate and the Lips of the Wound relax, it is a good sign. But if the proposed method prove ineffectual, the best way will be to divide the Nerve or Tendon, lest worse Accidents follow, as convulsions, Gangrene, Spasms, &c. After division the Wound is Cured by the Common Instructions as other Wounds, the Part being kept in a Convenient Posture. But,

Sometimes

254 Of the Wounds of the Nerves, &c. Part. III.

of the Accidents that attend Bleeding.

Sometimes in Letting Blood, by Bandage or Position, the Skin which lyes equal with the Orifice, by altering the Position of the Arm, or when the Bandage is loosned is drawn over the Orifice, and Extravasated Blood lying under the Skin occasions an Ecchymosis; or when the Orifice is made well, and there is no fault in the *Chirurgion*, through the ill disposition of the Humours, the Part festers and occasions a Phlegmon; which neglected occasion Tumour and Inflammation, and other ill Symptoms, which are imputed to the Pricking of a Nerve or Tendon; but if taken care of in time, a Pledgit of *Basilicon* warm will be sufficient, Embrocating the part with *ol. Rosar.* and *Emplast. de Bol.* or *Diachalcit.* relaxed with *ol. Rosar.* applyed over it. What method is convenient when those Parts are Wounded by a Lancet, hath been shewn elsewhere in the first Part of Tumours; in the Chapter of an *Ecchymosis*.

of the Ligaments.

If the Ligaments are Wounded, they require much the same Method with the Nerves and Tendons; only the Parts being themselves dry require Medicines more drying to stop their Gleet As *Euphorb. Sulph. Viv. calx. Lota. Tutia, &c.*

CHAP

CHAP. IV.

Of Wounds of the Face.



IN Wounds of the Face Care *Cautions to*
ought to be taken, that the part *be observed*
be not disfigured and deformed
as much as possible, but if stitching
be necessary to bring the
Lips of the Wound together, the
part after stitching is to be dressed with proper
Agglutinatives, sprinkling a little of *Pulv. Ga-*
m. over the Wound with a Pledgit of *Linimen-*
um arcei and *Emplast. de Bol.* as a Defensative,
and a Compress wrung out of Oxycrate, with
convenient Bandage over all. As soon as it may
be convenient the stitches are to be Cut, before
they cut through the Skin and endanger disfigu-
ring the Face with scars; and the Lips of the
Wound are to be retained close together by the
help of the dry stitch, dressing the wound as be-
fore; and making such Bandage as may Com-
press and keep the Lips of the Wound close to-
gether, and assist the dry stitches.

If the part be attended with Fluxion and in-*What is to*
amed, embrocate with *ol. Rosar. cum. aceto.* *be done in*
and make Revulsion by Bleeding, Purgings, &c. *case of Flu-*
laying the ferment and heat of the Humours by *xion.*
Cooling diet, and Anodyne Draughts, &c.

256 Of Wounds penetrating the, &c. Part. III.

Agglutina-
tion it is to
be promoted

If the Body abound with hot thin Humours which may hinder Agglutination, the Lips of the wound are apt to separate again, after they seem to be agglutinated; in which Case, the use of *Linimentum arcae* is not to be continued, but the wound is to be dressed with drying Medicines, which may imbibe and consume that superfluous Moisture; and the Wound will heal of itself, and Agglutinate, Medicines proper in such Cases are *Unguent. alb. Camp. Tutia. Desiccativ. Rubr.* &c.

C H A P. V.

Of Wounds penetrating the Oesophagus and Aspera Arteria.

Wounds of
the Oesopha-
gus how
treated.



Wounds which penetrate the Oesophagus or Aspera Arteria ought to be stitched very close; especially the Oesophagus, otherwise the Saliva in it's passage continually, would be apt to flow and press into the Wound, and hinder the Parts from uniting. If the stitches seem to give way before the Wound is internally agglutinated they are either to be removed, or the Conserver with pins and needles is to be made use of, keeping them close together with a strong thread twisted about them till the Wound is united.

To dispose the Wound to unite and agglutinate, proper Agglutinatives are to be employed, and the Patient is to use a thin Diet, that the Parts may not be too much pressed upon by swallowing gross Meat.

CHAP. VI.

Of Wounds of the Breast.



Wounds of the Breast are of two *Difference.*

kinds, either such as penetrate or such as do not. If they penetrate we are to consider, whether they penetrate betwixt the Mediastinum, or whether into the

Cavity of the Thorax; and what Parts internally are wounded.

If a Wound penetrate the Breast, and enter into the Cavity of the Thorax, it may be discovered by a Probe, or a searching Candle; or by laying a Feather upon the Wound or holding a Candle before it, which will be either blown away or extinguished, the Air making a Noise as it goes out upon Expiration. Sometimes it may be perceived by the Blood discharged either by the Wound or Mouth, or sometimes by both, the Lungs being oppressed by extravasated Blood, occasioning a Difficulty of Breathing, as in *Orthopnea.*

The Diagnosis.

The Prog-
sticks.

If a Wound happen in any Part of the Thorax, it is dangerous especially if a Nerve, Tendon, or any great Blood Vessel be Wounded. For which Reason they are more Dangerous in the Back-part than in the Fore-part, and if the Lungs are Wounded, because of the Constant Motion of the Lungs. If they happen near any great Vessel they commonly terminate in a Phthisis or Fistula. If the Blood extravasated fall upon the Diaphragma, and corrupt, it is dangerous.

The Cure.

If a Wound of the Breast be External it is cured as a Simple Wound. If the Wound penetrate, the Flux of Blood is to be checked, and the Extravasated Blood discharged. The Extravasated Blood is discharged either by the Wound or Expectoration, or as some Authors say, by Urine.

If a Transfusion of Extravasated Blood happen by Urine Decoct. *Capill Veneris polytrich. rai Petroselin. beton apii. fenic. asparagi, &c.* And proper Diureticks, which attenuating the matter, dispose it to be transfused through the Pores of the Pleura, and imbibed by the Branches of the *Vena Azygos*, and in it's Circulation through the Kidneys, to be separated in the Glands of the Kidneys and pass off by Urine. Ptisans also with *ol. Sulp. Vitriol.* and Emulsions are proper to temper the Heat of the Blood, and by keeping it cool, prevent a further Extravasation. The Vessels are also to be emptied by Bleeding and the Ferment of the Humours checked. Anodine Draughts.

To promote a Discharge of the Matter by Expectoration, *Decoct. Pectorale Syr. Capill. Veneni. Fujuk. Glycyrrhiz. Oxymel. &c.* are convenient.

If the Wound be in such a Part that it cannot be conveniently discharged by the Wound, then it is to be healed up as soon as possible. But if the Wound, be in such a place, that the Extravasated Blood may be discharged by it, it is to be kept open; but first the Flux of Blood is to be Stopped, to which purpose a soft Tent is to be made, with a thread tyed to it, to prevent it falling into the Cavity of the *Thorax*, this to be dipped in the Common Astringent powder of *Bol. Armen. Sang. Dracon. & Thur. cum album, ov.* with a Pledgit of the same and *Empl. de Bol.* over it; when the Flux of Blood is stopped, the Plegit may be armed with a digestive, and as soon as the Matter is discharged, the Orifice may be healed up with Agglutina-tives, Incarnatives and *Epuloticks*.

CHAP. VII.

Of the Wounds of the Belly.

Difference.

Wounds of the *Abdomen* differ as they penetrate or do not. If they penetrate the *Intestines* or the *Omentum* are apt to slip out. In Wounds of the *Abdomen* which penetrate sometimes the *Intestines* or some of the *Viscera* are also wounded.

The Diagnosticks.

If penetrating Wounds of the *Abdomen* are large, the *Omentum* or *Intestines* will fall out; if small it may be discovered with a Probe. If any of the *Viscera* be wounded it will appear from the symptoms, and the place where the wound is made; if the small Guts be wounded, Chyle will flow out of the Wound; and so the Matter will differ according to the Nature and Contents of the wounded Part.

The Prognosticks.

Wounds which do not penetrate are without danger, those which penetrate near the Plexus of the Nerves in the Middle of the Belly are worst, being painful in stitching and difficult to cure.

The method of Cure.

Wounds which do not penetrate are cured as other simple Wounds. If the *Intestines* or *Omentum* thrust out, they are speedily to be reduced; but if they are so inflated and puffed up, that they cannot be returned, they are to be fomented with red wine, or a discutient decoction
ex Summit. orig. puleg. fol. beton. saiv. flor. cham.

sem.

fem. anethi, fenic. dulc. anis. &c. and if these Methods prove ineffectual, the Wound is to be enlarged by Incision, and then they are to be reduced.

If the *Omentum* be tainted by the External Air, ^{When the Omentum is tainted what is to be done.} a Ligature is to be made, above the Corrupted Part, and that to be cut off, and then the Wound is to be stitched up, leaving the ends of the Ligature hanging out till it cast off.

If the Wound be so small, that neither the Intestines nor *Omentum* can slip out; nor the Parts within be hurt, the Wound is to be healed up and agglutinated; but if the Viscera be wounded it will appear by the Symptoms, as the Inflation of the Belly, Collick, Vomitings, &c.

If the small Guts be wounded, it will appear ^{In Wounds of the Guts what is to be done.} by the Violent Pain, Vomiting of Choler, and the Chyle flowing out off the Wound. In this Case the whole Region of the Belly is to be emprocated with *ol. Mastich. et Lumbricor.* and the Wound dressed with Sarcoticks, keeping it close and warm with Compress and Bandage. But if the great Guts be wounded, and the Excrements discharge themselves that way, the wound is to be laid open, and the Gut stitched with the Glovers Stitch, which being done, sprinkle some of the Agglutinatives over the Wound and reduce the Gut, stitching up the *Abdomen*. The method of stitching the *Abdomen* is to take hold of, and leave the *Peritoneum* by turns every other stitch, that it may cement with the Flesh, otherwise the *Peritoneum* not growing together, the Person will be subject to a Rupture.

*Bleeding is
necessary.*

*Clysters
when pro-
per.*

*Vulnerary
Decoctions
requisite.*

*What is to
be done
when the
Viscera are
Wounded.*

In these Cases Bleeding is necessary, and is to be repeated as often as necessity requires. A strict and moderate Diet is also to be observed, that the Intestines be neither crouded with the Quantity of Excrements nor prejudiced with their ill Qualities. After the second Day, Clysters of Chickin, or Veal broth may be administered, wherein Barly hath been boyled, adding Yolks of Eggs, *mel com.* or Sugar of Roses, which will not only be soft and healing to the Parts, and preserve the Natural Heat, but also prevent the Intestines from being crouded with too much Excrement. Internally, Vulnerary decoctions of *fol. plantag. Equiset. pimpinel. pilosel. rad. consolid. &c.* may be used, adding, *Conf. ros. rubr. cydon.* or *Decoctum Traumaticum.* as also *Electuaries* and *Bolus's* made of *Balsamicks* with *Agglutinatives*, as *Spec. diatragacanth. &c.* Which may not only assist and promote the healing of the Parts internally, but also by their Mucilaginous Qualities defend the Intestines from the Acrimony of Cholerick Humours. If the *Viscera* are Wounded, the same Internals are proper, and the Wound is to be kept open to dress the Parts, and to discharge the matter that flows from them, as also Cataplasms may be applyed *ex ferin. bord. fabar. fl. ros. rubr. in hydromel. coct.* But of these more in the following Chapter of Gun-shot Wounds of the Belly.

CHAP. VIII.

Of Wounds of the Head.

Wounds of the Head are either *Difference.*

Superficial, in the Skin or Flesh, or affect the Bones, or when the the Membranes within the Skull are Cut or Torn. Wounds of the Skin and Flesh are either Sing-

ly by themselves or Compound with Fractures of the Skull, and Wounds of the Membranes

also. Wounds of the Skull are divided into Six *Wounds of the Skull* Sorts, viz. Fissures contra Fissures, Incisions, Punctures, Contusions and Fractures. But some-*how many.*

times violent Concussions of the Brain happen by a Blow or Fall, the Skin and Cranium remaining whole, attended with violent Accidents, not unlike those of Fractures, and often more violent, the Vessels within the Skull being broke and

Blood Extravasated, which produce *Stupores, Vir-* *The Symptoms and Accidents of Concussions.* *rigines, Dileria, &c.* more Dangerous than Fractures themselves, the Extravasated Blood not only affecting the Membranes of the Brain, but

pressing upon the Origin of the Nerves. If a Concussion happen without Fracture of the Vessels, the Person is only Stunned, and soon recovers. Sometimes Contusions are attended with Fissures of one or both Tables of the Skull. If the Fractures happen in the place where the blow was made, it is called *Fissura*; but if it happen on the Opposite Part, it is called *Contra fissure*. Great Contusions without a Wound often are attended with Concussions; but those are most

properly Fractures, where the Contusion is attended with a Wound and a peice of the Skull is separated from the rest. The other sort of Fractures are made by a sharp Instrument that either Cuts or divides the Parts by a Point.

Signs.

Simple Wounds of the Scalp easily appear to the sight. If there be a Wound the Fracture will easily be perceived by feeling with ones finger, the inequalities of the Bones being evident to the Touch; and sometimes when the Skin is not broke, if the Inequality and Depression be considerable, the Tumour of the part being soft and poppling. If there be no Wound, a Fracture, Fissure or Concussion may be Guesed at by the Symptoms, and the manner and occasion of those Symptoms. If the Fracture be considerable, the Symptoms Conjunct, are First a Singing of the Ears. Secondly, Falling after the Blow. Thirdly, Swooning for a time. Fourthly, Slumbering after the Fracture is made. Fifthly, Dazzling of the Eyes. Sixthly, Giddiness. Seventhly, Bleeding at the Nose, Eyes, Ears and Mouth. Eighthly, Vomiting. Signs which follow after are. A Constant Pain of the Wounded Part, so that the Patient often offers to put his hand to the place. Vomiting Choler with a Fever, Convulsions, Palsie of one of the Legs and Arms, Raving, Faltring of the Speech, Deafness, Loss of Memory, Dullness of the Understanding, &c.

*the Prog-
nosticks.*

All Wounds of the Head though never so slight are Dangerous if neglected. Incised Wounds which reach no further than the Cranium are least dangerous, and easily cured. The nearer they reach towards the Brain the more dangerous. Contusions are all dangerous, producing commonly ill Symptoms. If upon Perforation of the Cranium, the loss of sense continue, it is dangerous, and foretells Blood Extravasated under the dura

dura Mater. In Gunshot Wounds, if peices of the Skull be drove into the Brain, it is Mortal. If Wounds penetrate no further than the dura Mater they are Curable, if timely taken Care of.

Of Simple Contusions of the Head.

IN the Cure of Simple Contusions of the Scalp, *In simple* which happen by a Blow or Fall. If they *Contusions* are attended with Pain, Inflammation and Tu- *of the Head* mour, the Hair is first to be shaved off, and *what is first* *be done.* Astringent Repellents made use of, to expel the Humours already Collected, and to prevent the Influx of more; to which end, the Tumour and Parts about it, may be Embrocated with *ol. Ros. cum aceto*, or *ol. Myrt.* applying the following Cataplasma. *R. farin. hord. fabar. ana ℥vi pulv. N. Cypress. Balust. Alum. Roch. ana ℥i. ros. rub. ℥vi. ol. Ros. ℥iii. alb. ov. N. ii. acet. q. s. f. Cata-* *plasma.* which method of dressing is to be continued, till the Flux of Humours is stopped. Re- pulsion is made also by Bleeding, and Clysters, as also anodyne Draughts, to prevent the heat and ferment of the Humours. When the Influx of Humours is restrained, the remaining part of the Humours may be dispersed by Discutient Re- pellents; fomenting the Part with *fol. Beton. fl. anthos Shechad. cham. ros. rub. bac. Myrt. &c.* boiled in red Wine, Embrocating the Parts after- *When the* wards with *ol. Ros. & Cham.* But if the Tumour *Tumour is* becomes hard and painful, and incline towards *hard and* suppuration; foment it with *Emollient Discutients* *painful* *what is to* *be done.* *Decoct. sum. malv rad. Althaa, sem. lini fenugrac.* applying a Cataplasma of the same, with *farina ordeii, &c.* If Extravasated Blood occasions an *Ecchymosis,*

Ecchymosis, Stronger Discutients are requisite mixed with Repellents; that whilst the Discutients attenuate the Blood, the Repellents may compress the Parts, and repel it into it's proper Vessels again, as *R. farin. hord. fabar. ana ℥iij. fl. ros. rubr. bac. myrt. ana ℥i sum. Absinth. fol. beton. fl. sambuc. Cham. ana ℥iij. sem. Cymin. ℥i. pulv. & coq. in vino Rubr. addend. mel. commun. ℥iij. of Ros. & Cham. ana q. s. f. Cataplasma*; but if this proves ineffectual, the Tumour is to be opened lest the Humours lying too long under the Skin corrupt and foul the Cranium. When opened, it is to be digested and deterged and cicatrized keeping the Parts close, with Compress and Bandage, that they may be the more readily united underneath. If the Tumour be complicated with a Concussion, the Vessels are to be emptied by plentiful Bleeding, repeated as necessity requires by which means the Blood will flow less plentifully upon the Part affected, and the Symptoms be relieved, The Body is likewise to be kept soluble with Clysters, and the Heat of the Blood allayed by cooling Emulsions and Juleps, Embrocating the Parts with *ol. Rosar. cum aceto & Myrt.* with Astringent Repellent Cataplasms. When the Symptoms are abated, apply *Emp. v. gonis ad Contus.* or *R. furfur. Tritici. ℥iij. farin. lent. ℥iij. fl. ros. rub. bac. myrt. balust. ana ℥i. Calom. Aromat. ℥i. fs. fl. Cham. melilot ana ℥ss. N. v. omn. pulv. & coq. in Vin. auster. q. s. ad consist. Cataplasma. addend. ol. cham. ros. ana ℥iij.* If these Remedies avail not, the Part is to be opened, and the Skull perforated; to discharge what may be Extravasated on the *Dura Mater*.

When the
Tumour is
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with Con-
cussion.

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Of Contusion with a Wound.

IF a Contusion be large, and Complicated with *When a Tu-*
a Wound, and the Tumour likewise soft *mour is*
and pappy; and notwithstanding the use of *complicated*
Astringents still increase, it probably proceeds *with a*
from a Fissure in *Cranio*. In which case Incision *Wound.*
is to be made into the Tumour, and if the *Cranium*
be neither bare, nor any depression appear, the
Wound is to be digested and healed: but if the
Skull be depressed the Scalp is to be divided, and
Perforation to be made for the Discharge of the
Humours in the Head.

Of Wounds of the Head by Incision.

IF a Wound of the Head be made by a sharp *Of Incised*
Instrument, though the Skull be hurt, yet *Wounds of*
it no ill Symptoms appear, bring the Lips of *the Head.*
the Wound close together, and having retained
them so by Stitching, sprinkle *pulv. Galeni* upon
the Wound, applying *Emp. de Bol.* or some other
defensative, with Compress and Bandage, next
dressing make use of *Livimentum Arcei*, with the
Defensative and Bandage, and the Wound will
soon heal and unite.

Of Wounds of the Head with Loss of Substance.

What is to
be done in
Wounds of
the Head
with loss of
Substance.

IF a Wound of the Head be made with loss of substance, part of the scalp being torn away, digest with *Terebinth cum vitel. ov. et farin. bord.* then deterge with an Addition of *mel. Commun.* *rad. ireos. sarcocol. &c.* and with an Addition of *Myrrh* and *Aloes* incarn; or you may incarn with *Linementum Arcai*, If the Flesh grows loose and spungy, touch it with the Vitriol stone, which will harden the Flesh, and dispose it to cicatrize: to perfect which, a pledgit pressed out of Spirit of Wine or *aq. Calcis* will be sufficient. In

In Wounds
made by
Contusion.

Wounds made by contusion, though the Skull be a little bare, if the Orifice be kept open, with a small Dossil pressed out of Spirit of Wine or *Tinct. Myrrh*, and the Part defended from the Influx of Humours by a defensative, the rest of the Wound will incarn, being kept Close with Compress and Bandage; but care must be taken, to leave room for the Discharge of the Matter, which, if retain'd would enlarge the Cavity betwixt the Skull and the Cranium, and keep them from uniting; but this may be prevented, by leaving a hole in the middle of the Compress.

What is to
be done
when the
Skull is
much bare.

If the Wound be so much contused as to cast off a slough, and leave the Cranium much bare, though it be not foul, it will be requisite, to raspe it; otherwise the flesh will not easily grow upon it, whilst the Bone is smooth and slippery: besides the external *Lamina* of the Bone are so close, and interwoven with so few vessels, that they are not able to cast out a Callus; especially since the Vessels in the substance of the Bone re-

main

main entire, for as we have observed, where either new Flesh, or a Callus is Generated, it rises from the Extremities of the separated Vessels, which are promoted by an Apposition of the parts of the Blood to the Extremities of the Vessels; wherefore, till the Vessels are broke by raising, and there happens a solution of Continuity to be made, there can be no such Apposition of parts, nor no new flesh made. When the bone is rasped, dress it with *Linimentum Arcaei* hot, and that will not promote the growth of new flesh, the native heat is to be rowzed with Dossils pressed out of spirit of Wine, simply or in which *lv. rad. ireos, aristolochia, &c.* have been infused. If by a sharp Instrument, the Skull be cut slanting off, or into the second Table, if there be no signs of Concussion, the wound is to be cleansed, and dressed with Dossils pressed out of Spirit of Wine, digesting the Lips of the Wound, till the Bone exfoliates: where it is to be observed, that the bone is to be exfoliated from the Edges, for Medicines applyed to the middle will not exfoliate.

*Why Ras-
ping is ne-
cessary.*

*How the
Bone is to
be dressed
after Ras-
ping.*

Of Fissures and Fractures.

If by a fall or blow the skull be fissured or fractured, the skin remaining whole the Scalp presently to be divided by making Incision either Angularly or Cross, or of the form of the letter T as the part requires, or will admit, attending the Sutures or the Temporal Muscle. The Incision being made the divided Lips are to be filled up with Dossils of Lint, pressed cut of wine or oxycrate, applying a plaister of *Dialcite* malaxed with oyl of *Roses* over it. But if

*In Fissures
or Fractures
the Scalp is
to be divided.*

&c.

if the Flux of Blood be great, Dossils pressed on of Oyl of Turpentine will be convenient: The part being thus filled, it is to be bound up, that the flux of Blood is stopped, that the Blood may not disturb the Chirurgeon in discovering the Fissure: next dressing, if the fissure be so small as not easily to be discovered, the *Cranium* is to be wet with Ink, and when wiped off the Ink will remain in the Fissure and discover it. If the fissure is not discovered by this method, the following Emplaster may be applyed, *R. Cera n. et flava, Thuris Ladan. ana ℥ii. farin. fabar. Terbinth. acet. ana ℥i. M.* the next day the fissure will appear moist, where the Raspatory is to be used the whole Length of the Fissure, defending the divided Lips of the Scalp, from external Air by covering it with soft Linned Cloth; but if the symptoms it appear, that the *dura Mater* is offended with extravasated blood, or *sanies*, sufficient way is to be made, either by Raspatories or otherwise, for its discharge.

When the
Fissure or
Fracture are
joyned to-
gether.

If there be a Fracture of the skull and a fissure if the fissure is not sufficient to releive the *Dura Mater*, then the Trepan is to be applyed, to give vent to the Serum or Blood, that offends the *Dura Mater*; but if the fissure be sufficient to discharge the Serum or Blood, the use of the Trepan may be forborn. But if the fracture attended with a depression, the Trepan is to be applyed near the Depressed part, that the Humours may not only be discharged; but that the depressed part may be raised, by the help of the Levatory.

Chap.

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In applying the Trepan it must be observed, *Where the Trepan is to be apply'd and the manner of applying it.* that it be done in such a part, as may be most convenient for the discharge of the Matter, as in the most depending ; and also so near the depression, that the depressed Bone may be also conveniently raised. When the Trepan is placed, it is to be held firm with the left hand, and turned with the right ; the Trepan being often taken out, and cleansed of the foulness, by which means it will also be cooled. When you come near the second Table the pin is to be taken out, lest that penetrating before the Trepan, should wound the Dura Mater. When it is near the second Table it will easily be known, by the Blood appearing about the Instrument ; When the Instrument hath passed the first Table, it is frequently to be taken out, to discover when the Bone is cut through ; and care is to be taken not to press too hard upon it, lest it slip at once thro' and wound the Dura Mater. When the bone is cut through, so that it but slightly adheres in some part, it is to be raised by the Levatory, & the Asperities on the Lower Edge of the *Cranium* are to be taken off with the Lenticular.

When the Bone is taken out, and the Asperities of the *Cranium* are taken away, the Dura Mater is to be cleansed of the Blood that lyes upon it with a soft Sponge or some dry Lint, and then the Dura Mater is to be dressed with Lenients, which may secure the Membrane from Inflammation, and digest the Blood upon the Dura Mater, as *Ol. or Mel. Rosar cum Resin abietis* ; when the Blood is digested more of the *Resin* and less of the *Oyl* may be added, which deterges, or the following may be used, which both deterge and incarn, *R. Terebinth. venet. ℥i. ol. Ros. ℥iv. mel. Ros. ℥iii. Croci. ℥i. Granor. Hermes, ℥ss. sem. hyperic. ℔i. Vin. Hispan. ℥iii. Coq. ad Consump. Veni. Colat.*

lat. add Aloes. ʒi. M. The Dura Mater being dressed with these Medicines, the perforation is to be filled up with dry Lint, and the bone dressed either with dry Lint or *Linimentum Arca* which may also be applyed instead of the former to the Dura Mater it self; which I have seen very successfully done by a most Ingenious Surgeon in her Majesties Navy, Mr. Will. Tovey with whom I had the happiness to be acquainted and see that Case not only very dexterously, but also successfully handled; The perforation being thus taken Care off, the Lips of the Wound are to be dressed with digestives *ex Terebinth. &c.* with a plaister of *Diacalciteos* malaxed with *ol. Ros.* over all. But here we are to note, that care must be taken not to continue the use of digestives too long, lest they relax the Membrane, when the Dura Mater is sufficiently digested, it may be deterged with Tinct. Myrrh, which will also promote the Generation of a Callus, and hasten the Exfoliation of the bone. If the Concreted Blood have lain long upon the Dura Mater, and tend to Putrefaction, *Mel. rosar.* and Spirit of Wine are proper to be applyed to it or *me* *Aegyptiacum.*

What is to
be done in
Fractures
made by
Gunshot.

When Fractures are made by Bullets or Slugs not only the Hairy Scalp, but the Cranium also are driven in upon the *Dura Mater*; to relieve which, the Scalp is presently to be divided, and the Scalp and Cranium to be both raised up together. If there happen a great Flux of Blood the Blood is to be wiped away with a Sponge and dressed as above directed. If there be no sufficient Room for Discharge in the Fracture Perforation is to be made in the most declining Part, and the Fracture Bones to be raised up, and such as are loose are to be taken out, dressing the

other

others with proper Medicines; and if care be taken, that they be not over grown with Spongy Flesh, they will Agglutinate.

In great Concussions, though there be neither fissure nor Fracture, it may be convenient to make perforation; and if the Symptoms abate not, it is probable, that there is an Extravasation of Blood deeper, and then the dura mater is also to be perforated; and if the *Coma* and *Paralysis* are not relieved by that, it is a sign that the Brain is Sphacelated, and the Patient dyes Convulsive.

Of Wounds of the Dura Mater.

When the Dura Mater is Wounded, it is to be dressed with such Medicines as are convenient and Digestive, and Anodyne; for since this Membrane is of such exquisite sense, if sharp irritating Medicines are applyed, they would presently exasperate ill Symptoms; and instead of healing, promote the Disorders of the Genus Nervosum. Medicines proper in these Wounds are *ol. Rosar.* or *ol. Hyperic.* and *Mastich.* mixed with *Resin.* or they may be dressed with *suc. aluminth.* Sprinkling the Membrane afterwards with *pulv. mili* which also incarns; but the use of lenients are not to be continu'd too long, lest relaxing the Part, the Flesh grow loose and spongy; but this in the beginning may be prevented by drying Medicines, which imbibe and dry up the superfluous Moisture, and hinder the quick apposition of Parts in incarning, as *pulv. cort. granat.* *balust.* *ros.* *crrub.* *alum.* *ust.* or the *Vitriol Stone* may be applyed, if used moderately and a little time. But if Medicines which are sufficiently drying, and which preserve also the Natural

T
temper

What is to be done in great Concussion.

How Wounds of the Dura Mater are to be dressed.

temper of the Part be used in time; after digestion, the Flesh will rise solid and firm, and not be apt to thrust out a fungus. As Spirit of Wine applied with Lint or mixed with *mel. rosarum* or *Tinct. Myrrh.* or *R. Spr. vini.* $\text{℥vi. myrrh.} \text{℥ss. aloes} \text{℥i. Sarcocol. thuris ana} \text{℥ii.}$

But if the Dura Mater be so much affected as to change its Colour by the Humours flowing upon it, it may be deterged and dried, and the superfluous moisture consumed by the following, *R. Terebinth. lot. in vin. alb. ℥iii. mel. rosar. Spir. Vin. ana ℥i. Myr. aloes, Sach. alb. ana ℥ii.* If these Wounds, by the Mater lying long upon the Dura Mater, tend to putrefaction *R. Michridan. ℥vi. Theriac. venet. ℥ii. mel. Egypt. ℥i. pulv. Scord. myrrh. ana ℥i. Spr. Vin. q. s.* When the Putrefaction is removed it may be dressed with the following *R. ol. Terebinth. Venet. mel. rosar. ana p. aq.* applied warm.

*The manner
of dressing
the Dura
Mater.*

In applying these Medicines to the Dura Mater, a Sindon is to be made use of, which is to be made of a peice of Silk or fine Linnen, answerable to the figure and size of the Perforation which is to be placed under the Edges of the Cranium by the Lenticular, that the Edges of the Cranium may not hurt the Dura Mater; and a peice of thread or silk is to be fastened to the Sindon that it may be pulled out as occasion offers. When the Dura Mater is dressed, the Perforation is to be filled with Dossils of Lint, to keep the Dura Mater from rising. When the Dura Mater incarns, the Flesh rising from it increases on each side till it unites, and then rising up joyns with the Callus that rises from the Perforation which filling up the Cavity of the Cranium, at last hardens and grows firmer than the Bone itself.

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Of the Wounds of the Pia Mater and the Brain it self.

THE Pia Mater adheres so closely to the Brain, ^{Of Wounds of the Dura Mater.} that it can scarce be hurt without the Brain being wounded likewise. When this Membrane is wounded it is commonly Mortal, the Membrane it self being not only full of Blood Vessels, and consequently apt to occasion great Extravasations of Blood, which falling about the Origin of the Nerves produce the worst of Symptoms, but likewise being of exquisite Sense, violent Symptoms must needs attend the Wounds of part so sensible. Besides the Brain being exposed to the Influence of External Air, is chilled and disposed to Corruption, and works out of the Wound: If there be any Encouragement to these Applications, that you may come at the Wound, the shattered flesh and bones are to be ^{How they are to be applied.} moved out of the way; and the shattered Lips of the Scalp are to be divided, that their constant Gleet may not fall upon the Parts within. The Part wounded is to be dressed with *pulv. calen, cum pil. Leporis, et alb. ovi.* to stop the bleeding, and the rest of the Wound is to be dressed, as in fractures in *Cranio*. If the Bone be foul dress it with *Linimentum Arcaei*, or if that be too moist. *Tinct. Myrrh. or R. Spr. Vin. x. Myrrh. ʒi. aloes. ʒi. ss. rad. peuced. aristolochia. rt. thur. ʒss. pulv. et M. pro usu.* If the Brain be contained within its Membranes, and they distend and incarn, the rest of the Cure is to be completed as in Fractures in *Cranio*. As for Wounds of the Brain a great many Medicines by several Authors have been proposed, but since such Wounds are commonly so Desperate, and Incurable, that they will not admit of time

for Applications ; and since those Medicines when applied prove ineffectual, I shall not here trouble the Reader with proposing such Medicines as the Desperateness of the Case will allow no Opportunity of making use of.

Having thus far considered the several kinds of Wounds the Head is subject to, whether they affect the Hairy Scalp, the Cranium or the Membranes contained within it, I shall here in General add, that in all Wounds of the Head, which are considerable, General Evacuations are to be made, whether the Body abound with Humour peccant in Quantity or Quality, and that, not only by bleeding, as the Strength of the Patient will admit, but also by Lenient Purges ; as also Derivation and Repulsion are to be made by cupping or fontanels. The Indisposition of the Blood is likewise to be corrected by Internals, as Electuaries. Emulsions or Traumatick Decoctions as the Nature of the Case requires of *Beton. Artemisia caryophyll. primula veris, lil. Conval, salvia. Hyperici. Sanicula. Veronica. N. Mosch. &c.* in Wine and Water or small Ale, as for Example. *R. sanic. beton. Veron. Artemis. ana ℥i. Cons. ros. rub. caryophil. ℥ss. Toymantil. ℥ii. coq. in aq. font. Col. vin. Rhenan. ana ℥ii. Vase Calauso in B. M. Colatur. Cap. ℥iv. mane & sero.*

What Regimen is to be observ'd in Wounds of the Head



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APPENDIX

T O T H E

Third P A R T

O F

Gunshot-WOUNDS, &c.

CHAP. I.

*Of the Cure of Gunshot-Wounds, the
Extraction of Bullets and the Dressing
after Extraction.*



Unshot-Wounds are not only So- *Accidents*
lutions of Continuity, but are *attending*
attended with Contusion, Attrition and Dilaceration; and fre- *Gunshot-*
quently with Fractures and other *Wounds.*
Accidents, as Hæmorrhagy, In-

flammation, Erysipelas, Gangrene and Spha-

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278 *Of the Cure of Gunshot-Wounds. Part.III.*

*Extraneous
Bodies
when to be
extracted.*

In dressing of these Wounds it is to be observed, that if a Considerable Hæmorrhagy happens, it must be presently stopped, and rather by Actual Cautery than other Applications; but first the Extraneous Bodies are to be drawn out whilst the Wound is Fresh and Warm, for after the first and second day, the Wound becomes so inflamed and tumified, that they cannot be extracted without great Pain.

Which way. Extraneous Bodies are to be Extracted, either the way they went in, or that they were inclined to go out. To take them out the way they went in, the Part must be placed as near as may be in the same Posture the Wound was received in, and being found out by the help of a Probe may be taken out with a convenient Instrument. If it cannot be found in the Wound by the Assistance of a Probe, try to discover it by handling the Parts; or it perhaps may appear by the Pain of the Part where it is lodged; and then if it cannot be taken out the way it went in, Incision is to be made in order to take it out the way it may be most conveniently come at, but care must be taken to avoid Wounding the Tendons, Nerves, Veins or Arteries. And in extracting the Bullet, care must be likewise taken that the Instrument take not hold of a Nerve or a Tendon; to avoid which danger the Instrument is not to be opened till you take hold of the Bullet, without any of the Circumjacent Parts.

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Ch. I. Of the Cure of Gunshot Wounds. 279

When the Bullet is taken out, or any other extraneous Bodies, The Wound is to be dressed with Lenient Digestives, to assuage the Pain of the Dilacerated Parts as *ol. Catellorum* as hot as the Part will bear it, *ol. lil. Lumbricor.* or *Lini-mentum Arcaei* with any of the above mentioned Oyls, or *ol. Terebinth.* may be made use of, or *By Terebinth. apt. ℥iv. Thur. Mastich. ana ℥iii. Myrrh. ℥i. ol. Aparici ℥ii ol. Lumbricor. Sambuc. ana ℥iii. M. or By ol. oliv. ℥bi. Terebinth. ℥i. sgum. Elemi. ℥ii. Erugin. pulv. ℥ii.* These Medicines are to be applied on proportionable Tents or Pledgits, embrocating the Part with *ol. Lumbricor. rosar. & acet.* which will discuss and repel the Humours already flowed to the Part, whilst the Influx of Humours is likewise prevented by a Defensative of *pulv. ros. rubr. bol. Armen terra sigillata sang. Dracon suc. plantag. Solan. &c.* which with *ol. rosar. Myrt. &c.* may be made up in the form of a Cerot; then apply a Compress wrung out of oxycrate or red Wine with moderate Bandage. The Humours are likewise to be prevented from flowing upon the Part by convenient Evacuati- ons, and emptying of the Vessels, as by Bleeding, Lenient Purges or Clysters; and a moderate spare Diet is likewise to be observed, to cool the Blood and prevent Inflammation. The Disorder of the Spirits and hot ferment of the Blood may be also mitigated by Anodyne Draughts: And if Occasion requires it, the Spirits may be sup- ported with moderate Cordials. If the Bone happen to be bare, dress it with *extract. scord. dissolved in mel. rosar.*

280 Of the Cure of Gunshot-Wounds. Part.III.

The method of the Second dressing. The Next dressing, the Wound ought to be stuped with Cloths wrung out of the following Decoction, or such like, which will give a breathing to the Part, and by preserving the Natural heat will promote digestion. *Rx. Summit. Hyper. scord. lent. absinth. ana. M. i. fl. ros. cham. mel. sambuc. ana M. i. si. furfuris. P. i. coq. in aq. font. ad ℥ii. fs. Colat. add. vin. auster. ℥i. spr. Vin. ℥vii. M. f. Fomentatio.* If the Wound be very painful, the part may be fomented with Emollients of *Rad. Althaa. malv. fol. Verbasc. Cham. melilot, sem. lini. fenugrac. &c.* If the Wound be in good Condition, Digestives may be continued till the Ninth Day; then deterge with *precipitat.* and *Unguent Apostolor.* and incarn, adding *Aloes. Myrrh. sarcocol. rad. Aristolochie. Gentian. Ireos. &c.* or *Tinct of Myrrh*, it self applied with Dossils or Pledgits as occasion requires.

CHAP.

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C H A P. II.

Of the Accidents that attend Gunshot- Wounds.



Un-shot Wounds in the Beginning are subject to several Accidents, as Pain and Inflammation, Erysipelas, Gangrene, Hæmorrhaggy, Palsie and Convulsions.

Inflammation and Erysipelas may be prevented *How Pain* by the timely use of such Medicines as resist the *inflammation* Influx of Humours; also by due Evacuations by *on or an E-* Bleeding and Purging. If Pain, Inflammation or *rysipelas are* an *Erysipulas* affect the Part, the first are to be *so be prevented.* relieved by Emollient Anodynes; and what Method is proper to remove the Erysipelas will appear, from what hath been said of that Disease in the first part of Tumours.

If either through the Decay of the Natural *How a* Heat, or by the false Applications of Medicines, *Gangrene* the Natural Temper of the part is destroyed; or *is to be* by the Afflux of ill disposed and depraved Hu- *relieved.* mours, the flesh in a Wound begins to look livid, and discharges a thin Gleet, instead of digesting, and begin, to mortify; the Lips of the Wound are to be scarified so deep, as to come to the sound flesh; which scarifications are to be permitted to bleed freely, that vent may be given to the peccant humours choaked up in the Vessels about the Wound; and also, that Medicines applied may have their true effects. Then the part *is*

is to be fomented with a *Lixivium* in which *scord.* *Absinth.* and *Centaur.* &c. have been boyled; and having washed the Scarifications with the same, dress them with *Aegyptiac.* and *Theriac. vener.* dissolved in *Vinegar*, adding calcined *Vitriol*; when the Mortification is stopped, the Eschar is to be separated by Digestives; and then detertered incarned and cicatrized.

Hæmorrhages what is to be done. If a violent flux of Blood happen, and will not be stopped by the Use of Astringents, or *ol. Terebinth.* with Compress and Bandage, or with Defensatives; then the Vessel is to be shrunk by an Actual Cautery, or secured by deligation.

How Sinuosity is to be prevented. If Gun shot Wounds are attended with a large Afflux of Humours; and they insinuate betwixt the Interstices of the Muscles, where Bandage cannot be made; to keep the Parts close and able to resist these Humours from extending a sinus; or the Bullet yet remain within the Wound, and cannot easily be got out; to prevent sinuosity, the Orifice is to be enlarged. And if notwithstanding, neither by altering the Position of the Part, nor by Compress and Bandage, nor hollow Tents the Matter can be discharged, a declining Orifice is to be made by Caustick, or Incision; but if there be hopes of discharging the Matter by Compress and Bandage, the Compresses may be wrung out of an Infusion *fl. ros. rubr. myrt. cort. granat. balust. N. Cypress. Sumach.* &c. and Injections used to promote the uniting of the Parts, with the following *viz. Myrrh, aloes, sarcocol. rad. ireos. Aristolochia, spr. Vin. mel. ros. or Tinct. Myrrh.* If Convulsions happen upon a Wound it is Mortal; but a Palsie may be occasioned by the breach of a particular branch of a Nerve, which only Impairs the part that Nerve supplied with spirits, and so produce a Paralysis of that Part.

CHAP.

CH A P. III.

Of Gunshot-Wounds with Fracture.



If a Wound be complicated with a Fracture, the Fracture may be discovered, First, by comparing the sound Part with the other, which will differ. Secondly, a Cavity may be felt both above and below the Fracture. Thirdly, by the Attrition of the hard Parts, you may perceive a crackling. Fourthly, there will be violent Pain, and a pricking of the Flesh, either with the Extremities, or some Splinters of the Bone. Fifthly, by the impotency of the Part. Sixthly, It may be supposed from the violence of the Antecedent Cause. And Lastly, from the unevenness and inequality of the Bones.

Signs of Fractures complicated with a Wound.

The Bones are sooner united in Sanguine than Choleric Constitutions, the Choleric Serum fretting and obstructing the more ready apposition of the Parts of the Blood. Again Fractures are less Dangerous in the middle of a Joynt, then when they happen near the Joynt, where they are harder to be reduced, and more difficultly retained in their proper places.

The Prognosticks.

Those Fractures are most Dangerous, which are deepest in the Flesh; especially when there happens to be a Commintion, and the Nerves and Tendons are pricked and torn, occasioning violent Pain, Inflammation, Convulsions and Death; except relieved by extracting those Splinters, or by taking off the Member.

The

284 *Of Gunshot-Wounds with Fracture. Part. III.*

What is to be done when a Fracture is complicated with a Dislocation. In order to the Cure of Gunshot-Wounds with Fracture, the Wound is first to be cleansed of extraneous Bodies. If the Fracture happen near the Joynt, the violence of the Blow often Occasions a Dislocation, which is to be reduced before you meddle with the Fracture; and if the Parts are so torn that there is no hopes of uniting again, the Musculoust flesh is to be divided and smoothed, and then hawled up, whilst the end of the Bone is sawed off.

If a fracture be complicated how it is to be reduced. But when a Fracture happens to be made with a Wound, and no Dislocation; first the Fracture is to be reduced, and then the Wound is to be Considered. In reducing the Fracture, Extention is to be made, which is to be gentle and made with Caution, lest the lacerated and bruised Parts be too much inflamed and rendered Painful, by too violent and rough handling. And first it will be requisite, before extention, to remove all extraneous Bodies, and if the Wound be not large enough, it is to be made so by incision, that the extraneous Bodies may be more easily taken out of the Way, by which means, the extention will be more easily made, and not be obstructed by them in reducing the Bones.

How the Bone is to be dressed. When the Fracture is reduced, if the Bone be bare, it must be dressed with dry Lint, first sprinkling it with the powder of *Myrrh. aloes. thus. rad. Ireos*, &c. dressing the Parts about it with warm Digestives, then apply *emplast. de Bol.* about the Fractured Part, and over the Wound a stupe or double Cloth wrung out of a Decoction of *fl. ros. rub. balust. sumach. bac. myrtil. sum. Absinth*, &c. in red Wine, which will keep the Lips of the Wound smooth and even.

Ch.III.Of Gunshot-Wounds with Fracture. 285

The Wound being thus dressed, over the Com-^{What Band-}press you are to bring the Ninetailed Bandage, ^{dage is to} which is to be made of a soft peice of Cloth three ^{be made.} fould, and of such a Breadth as may encompass both the Lips of the Wound and the Fractured Parts, and long enough to come once about the Fracture. This Cloth is to be divided by three Slits, reaching from the ends to the middle, which is to be placed under the Fracture opposite to the Wound; and the ends are to be brought one over another, and over the Compress, which is placed over the Wound. This Bandage is to be so placed, that the middle fould being opened, may leave room sufficient for dressing the Wound.

When the Pain and Inflammation are over, which ^{of Splenia} is about the Seventh day, and the Flux of Hu- ^{and Ferula.} mours is restrained, *Splenia* may be applied, made of Linnen Cloth four double, and cut like the *Ferula*: over these *Splenia*, the ninetailed Bandage is to be made, and over that, the part may be supported with peices of pastboard, or thin *Lamina* of Tin, which are to be so placed, that they may support the Fractured parts, and leave room for the dressing of the Wound; these *Lamina* or peices of pastboard are to be retained and kept fast, by three Ligatures, which are to be made fast, in such places as may be most easy to the Patient.

The Fracture and Wound being both thus ta- ^{The Part to} ken care of, the Part is to be placed in a due Po- ^{be put in a} sition; so that it may lye soft, and equal, and ^{convenient} that it may be neither hurt, which would occa- ^{Posture.} sion Pain and Inflammation; nor distorted, which would alter the Natural shape and disfigure the Part. The Part is likewise to be raised a little, that it may not be subject to the Influx of Humours.

When

286 Of Gunshot-Wounds with Fracture. Part III.

The Bandage when to be loosed. When the Wound is digested, and the Accidents of Pain and Inflammation removed, which is about the Seventh or Ninth day, the Bandage is to be loosened and the Restoratives taken off, applying such Medicines as may strengthen the Part and promote the Generation of a Callus, as *Emplast. Catagmaticum*, or *R. Emp. Stict. Paracels. p. ii. Emp. diachalcit. p. j. Misc.* over this a Compress is to be placed, dipt in red Wine as above directed; then make use of the Ninetailed Bandage, and over it, *Lamina* of Tin or Copper, or the *Splenia* of double Cloth dipped in whites of Eggs.

The Wounds being sufficiently digested, deterge with *Mund. Paracels.* or *R. Vinc. pervinc. peti, persicaria beton ana M. j. Flor. hyperic. Verbasc. ana P. j. Rad. Aristolochia utrinseq. ℥ss. thuris, Myrrh. Sarcocol. ireos ana ℥ii. coq. in Vino alb. addend Colatur. mellis rosacei q. s.* which will both deterge and incarn: or may be made into an Unguent. by an Addition of *Terebinth. cer. & ol. Hyperici.*

If a Caries happen in the Bone, dress it with a Decoction of *Scord. Vinc. pervinc. pencedanum, gentian. rad. Irid. and Myrrh. in Claret* adding Spirit of Wine. Or *Extract. Scord.* or it may be dressed with *Tinct. of Myrrh. &c.*

Vulnerary Drinks convenient. In all these Cases vulnerary drinks are convenient, not only to alter the temper of the Humours, which affect the Wound, but also, to promote the Generation of a Callus. As *R. Aristoloch. rotund. ℥ii. fol. serpentar. consolid. utrinseq; geranii Columb. Sanicula ana M. j. in ℥viii Vin. coct.* of which ℥iii. may be given twice a day with a drachm of *osteocol.* How these Medicines are serviceable in respect of the Wound, or promote a Callus I have already shewn elsewhere.

CHAP. IV.

Of Gunshot-Wounds of the Joynts.



Wounds of the Joynts are not on-^{The Prog-}ly dangerous, and difficult to ^{nosticks.}cure, but very painful; The Tendons, Membranes and Nerves, which are about them, being of exquisite sense, and if

the Joynt be great, they are subject to very violent Symptoms and Accidents, as Pain, Inflammation, *Delirium*, Convulsions, Gangrene; and are often Mortal.

In the Cure of these Wounds, the Extraneous Bodies are presently to be extracted; and if the Wound be not large enough it is to be enlarged, ^{What is to be done in the Cure.}taking Care not to wound any great Vessels, which may occasion an Effusion of Blood.

Extraneous Bodies being extracted, the ^{Digestives.}Wound is to be dressed with some of the following Digestives hot, upon Dossils or Pledgits. R. *Terebinth. lot. in Spirit. Vini. ℥iiii. Thur Myrrh. Mastich. ana ℥i. ol. hyyerici. ℥iii. Vitel. ov. No. ii. Croci. ℥ii. M. or R. ol. Terebinth. ℥i. ol. hyper. cum Gum. ℥ii. Euphorb. pulv ℥i. M.* drop this warm into the Wound, applying the digestive over it; then embrocate the parts with *ol. lumbricor. & hyperici*, applying the following Cataplasm over all R. *farin. hord fabar. ana ℥i. fl. cham. melilot. ros. rub. scord. Absinth. pulv. ana ℥vi. decoct. in Brodio, or Oxymel.* adding *ol. ros. et cham.* this by Discussing and Lenient Astringency will disperse what Humours might settle about the part, and mitigate the Pain. The

288 Of Gunshot-Wounds of the Belly. Part.III.

Detergents. The Wound digested deterge with the following *R. Farin. orob. ℥i. ss. Thur. rad ireos, ana ℥vi. suc. apii. ℥iii. mel. com. et Terebinth. ana ℥ii. M.* when deterged the following may be made use of to incarn *R. sum. hyperic. equiset. plantag. be. To incarn. ton. ana P. j. Rad consolid. Maj. tormentil. ℥iii. sev. hercin. ℥iiii. Lumbric. terrest. lot. ol. Mastich. ana ℥ii. Vin. odorif q s. Coq. ad Consumpt. Vini, postea colentur forti expressione, deinde add. resin. pini. ℥i. Thuris. Mastich. Myrrh, aloes, ana ℥ss. Cera ℥iv. M. f. Unguent.* If the Bone be bare care must be taken not to foul it, by greasy Applications. If the Symptoms be violent and are not releived by Anodynes &c. Care is to be taken to make Amputation, before the Spirits are too much exhausted.

CHAP. V.

Of Gunshot-Wounds of the Belly.

Difference.



Un-shot Wounds of the Belly are either penetrating or not. Those which are not penetrating are of ten Superficial, the Skin being only scratched and a little discoloured; yet since these are subject to Tumour, the Part under being a little bruised, it will be convenient to embrocate with Lenients as *ol. Cham. et Rosar.* and apply *Emplastr. de Bol.* to prevent Fluxion and Tumour. But when these Wounds penetrate the Skin, they re-

quire

require the same Medicines as simple Gunshot-Wounds; only these parts are more subject to Fluxion, being lax and in constant Motion; which makes Bandage and other external Applications less effectual.

When Wounds penetrate the Peritonæum, *The Diag-*
though no internal part be really wounded; yet *noſticks.*
the Contuſion is ſo great, that it commonly occasions violent Colicks, and a difficulty of Breathing.

But when the Internal *Viſcera* are hurt, the ſituation of Part, and other Symptoms proper to each part, will make it evident. If the Liver be wounded, an Effuſion of groſs Blood will follow. If the *Vena Cava* or *Porta* be wounded, the right *Hypocondrium* will be oppreſſed; and if the Artery be hurt, the Blood will be florid and flow out violently, and the Patient ſoon dies. If the Stomach be wounded, the Perſon will be troubled with *Singultus*, *Nauſea* and Vomiting, and Cold Sweats, the Contents of the Stomach with the Chyle coming out at the Wound. If the ſmall Intestines are wounded, the Chyle will come out at the Wound, and if the Great Guts are Damned, it will appear by the ſmell of the Excrements. If the Spleen be wounded, the Blood that flows out will be black, and the Perſon affected with a Tenſion and Difficulty of Breathing. If the Kidneys are wounded, the Pain is extended to the Groin and Teſticles, with a difficulty of Urine, and that which is diſcharged is either Bloody or altogether Blood. If the Ureters be wounded, the Urine comes out at the Wound. If the Bladder is hurt, there is a Tenſion of that part of the Belly, great pain in the Groin, and the Urine is diſcharged at the Wound, and the Stomach is affected by Contuſion.

290 Of Gunshot-Wounds of the Belly. Part. III.

The Prog-
nosticks.

Wounds of the External Parts of the Belly are dangerous, especially if the *Linea alba* be wounded. But when they penetrate the *Peritonaeum* they seldom recover.

Intentions
of Cure.

In order to the Cure, first the Bullet is to be extracted, and other extraneous Bodies, lest they offend the *Viscera*, or occasion greater Putrefaction; and the Intestines and *Omentum* are to be reduced, lest they corrupt or inflate, by being exposed to the External Air.

This being done, Digestion is to be promoted, and the Inflammation relieved.

To reduce
the Inte-
stines or
Omentum.

If the Intestines and *Omentum* are not easily reduced, they are to be fomented with warm Discutients; and if the Wound is not large enough, it is to be enlarged by Incision, If the *Omentum* be tainted, the Corrupted Part is to be separated by Making a Ligature, and cutting it off, leaving the ends out, till they cast off by Digestion.

What is to
be done to
stop an Hæ-
morrhagy.

If there be a Hæmorrhagy, you are to endeavour to stop it by Astringent Injections. as, *Urt. Sperm. Ranar. plantag. or Vin. rubr. cum* *de Ros. sic. addend. pulv. bol. armen. terra squilla sang. dracon. aloë. Thur. &c.* Astringent powder may also be applyed, mixed with a new laid Egg, upon a Tent made fast by a thread, that it may not fall into the Cavity of the *Abdomen* when the Hæmorrhagy is stopped, digestives are to be made use of.

What is to
be done in
Wounds of
the Stomach
and Guts.

In Wounds of the Stomach and Guts, the following Medicines are recommended. *R. fol. losel. plantag. rad. tormentil. consolid. Maj. flor. F. perici. coq. in Vin. Rubr. et Colat. add. Ma Thur. ol. Mastich, resin. abiet. Terebinth. Cyp Croci et Verm. terrest ana q. f. f. Sarcet.* The External Wound is to be dressed with Digestives

Chap.V. Of Gunshot Wounds of the Belly. 291

and the Natural Heat of the Parts preserved, with Fomentations, Embrocations and Cataplasms.

In Wounds of the Kidneys Astringents are ^{In Wounds of the Kidneys.} also proper, and such as prevent Putrefaction, as *rad. Consolid. irid. Aristolochia, rot. myrt. caud. equin. plantag. balust. in aq. Chalyb. coct. addend. Vin. rubrum. et syr. de Ros. siccis.* After the Injection dress the Wound with a digestive *ex Terebinth. cum integ. ov. terra sigillat. Thur. et mastich,* and embrocate the Parts with *ol. Hyperici,* with *emplast. Diacalcit.* malaxed with Oyl of Roses over all.

If the Liver or Spleen be wounded the flux of Blood will be considerable, to obviate which
Rx. Plantag. pentaphil. polygon. millefol. myrt. ros. rubr. in aq. Chalyb. coct. addend. syr. de Ros. siccis. which may be used as an Injection, applying
Sang. Dracon. bol. Armen. pulv. Thuris. &c. made up in the form of a *Liniment.* with the Juices of some of the abovementioned Herbs, upon Pledgits or Tents.

CHAP. VI.

*Of Gunshot-Wounds in the Thorax.**Difference.*

Wounds of the Thorax are either Superficial, of the External Parts or penetrate through the Ribs and *Pleura*, and frequently Wound the Principal *Viscera*.

If the Wounds do not penetrate into the Cavity of the *Thorax*, they are cured as Gun-shot Wounds in other Fleahly Parts. If the Ribs are broke they are to be treated as Wound with Fracture, the Splinters of Bones which might offend the adjacent Parts being taken out.

*The Diag-
nosticks.*

If the Wound penetrate into the Cavity of the Thorax, the Air upon Respiration will make Noise when it goes out: and the Blood will flow out either by the Wound or Mouth or both; but if it be retained and fall down upon the *Diaphragma*, it will appear by the Difficulty of Breathing and other Symptoms. If the Lungs are Wounded, it will be attended with a Cough, difficulty of breathing, and frequent sighing, the Blood flowing out of the Wound, or discharged by Coughing, the Person desiring to lye upon the Wound. If the Heart be Wounded, the effusion of Blood is violent and hot, the Spirits presently sink, and cold Sweats are the forerunner of a sudden Death. When the *Diaphragma* is hurt the Person is affected with a Difficulty of Breathing, a hoarsness, and Pain about the short Ribs

th

the Spine is also affected, and the *Diaphragma* drawn up. If the great Artery be hurt, the Effusion of Blood is impetuous, and flows from the left side, if the *Vena Cava* be Wounded, it flows from the right side. If the Spinal Marrow be hurt, a Palsie of the whole follows below the Wound.

Most of these Wounds are Mortal; and tho' *The Prog-* in some, life may be prolonged, yet seldom any *nosicks.* recovers.

In order to the Cure of these Wounds, the Ex-*Intensions* traneous Bodies are first to be extracted, and *of Cure.* then the Wound is to be dressed with Astringents to restrain the Bleeding. As *R. bol. armen. C. C. ust. ol. ros. & Sambuc. farin. volat. cum ov. integr. M.* Which may be applyed upon a Tent, and a Compress spread with the same over it. The Vessels are also to be emptied by Venesection, which is to be repeated as often as convenient. Injections may likewise be made use of, as a Decoction of *fol. plantag. ulm. urtica, vinc. servinc. ros. rub. fol. myrt. in aq. germ. querc.* with *Bol. Armen.* and *Syr. de Symphyt.* which are convenient in these sort of Wounds, the Orifice being sufficient to discharge them again; whereas in Wounds by Puncture, Injections are prejudicial, the Wound being too small to give vent to the Medicine injected. But besides Externals and Injections, internally *Traumatick Decoctions* are convenient, and Electuaries made of Astringent powders, and such Gummy and Resinous Medicines as thicken the Blood and Serum, and allay that Extraordinary heat which keeps the Blood thin.

The Effusion of Blood being stopped, the Wound is to be dressed with Digestives, as *R. Terebinth. lot. in Decoct. hord. ℥ii. pulv. Thur. Myrrh ana ℥ii. sem. fenugrac. pulv. ℥i. ol. hyperici. q. s.* applyed upon a short Tent, with a pledgit of the same over it, embrocating the Parts about it with a mixture of *ol. amygd. dulc. Lumbricor. & Unguent. de Althea*, which is both Emollient, Anodyne and Discutient. This being done apply *Emp. Diachil. Simp.* malaxed with the same mixture over all. The Wound being digested, de-terge and incarn, which may be done either by Injection, or by a proper Unguent. If Injections are proper a Decoction of *Pilosel.* with *mel. rosarum* may be used, or *R. sol. pilosel. Caud. equin. Plantag. tormentil. Consolid. Rad. Aristoloch. rot. rad. irid. & sarcocol. coq. in aq. font. addend. mel. Ros. q. s.* Or the following Unguent. may be used, with which the Wounds externally may be dressed also, *R. Terebinth ℥ii. farin. hord. cribat ℥i. Thuris sarcocol. rad. irid. ana ℥iii. mel. rosar. ℥iiii. M.* If there be any Sloughs externally, which may discharge a troublesome Gleet offensive to the Parts within, they are to be cut off before the Wound is digested.

When the Flux of Blood is stopped and the Wound begins to digest, instead of Traumatic Decoctions, *Decoctum Pectorale* may be given, or Cows Milk sweeten'd with Sugar of Roses; their Diet is also to be Slender and Incrassating; yet it ought to consist of such things as afford good Nourishment; and make soft and mild Chyle which may not offend the Parts within, either by it's Saltness or Acrimony; nor increase the heat and ferment of the Humours within. The Body is likewise to be kept open with Clysters and the heat of the Blood tempered with proper Emulsions, &c.



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CHAP. VII.

Of Burns with Gunpowder.



When any Part of the Body happens to be burnt the Method of Cure is much the same, only as it differs according to the degree and violence of the Cause. If they are burnt with Gunpowder, the powder is to be first picked out, lest it stain the skin, and leave the marks behind, which afterwards cannot be removed without taking off the Skin.

If the Part be burned superficially, the Cuticula will be raised in Blisters, the Texture of the Cuticle being destroyed by the fire, whilst the Heat and Inflammation of the Part rarifies the Blood in the Cutis, and promotes the Separation of the Serum in the Cutaneous Glands, which being separated faster than Naturally, and not separated through the pores of the Cuticula as it ought to be, it is heaped up betwixt the Cutis and Cuticula and separates the latter. If the Burn penetrates deeper, it destroys the Texture of the Skin, and forms an Eschar, which by being more violent is burnt into a hard crust.

*The Reason
of Blisters.*

The method
of Cure.

In the Cure of these Burns, either Cooling and Refrigerant Medicines are used which take off the heat of the Part, or warm Applications which ease the Pain by rarifying the Humours and opening the pores of the Cutis and Cuticle. Refrigerants which are also Anodyne, and assuage the Pain by dulling the sense of the Nervous *Papilla* are *aq. solan. plantag. hyosciam. lac butyrum*. Refrigerants which cool the Parts, are *Unguent. album nutritum, populeon, rosatum, &c.* which are to be applied warm, lest they should obstruct the pores, and prevent the discharge of the hot Inflamed Serum. When the Heat is off and the Eschar separated, the Ulcerated Parts are to be digested and cicatrized.

Why warm
Medicines
relieve
Burns.

Hot Medicines relieve and ease the Pain by opening the pores of the Skin, and rarifying the Humours by which they are more inclined to go off by Transpiration, whereas when they are heaped up and grow more acrid by being retained, they corrode and ulcerate the Parts, and violently affect the Nervous *Papilla* or Sensible Membranes and are more Painful. To this Intent a red hot Iron may be held before the Part, or by applying an Onion beaten together with Salt, but these Methods are not to be used when the Cuticle is separated, and it's pores destroyed, since then they cannot give vent to the rarified Serum; but would rather increase the Pain and Inflammation; nor are these Methods to be used when the skin is off, since then they exasperate the Pain, by increasing the Heat of the Part, and affecting the Nervous Parts. Other things which promote Transpiration by their Discutient Qualities, and also ease the Pain by their Anodyne Parts, are *Fimus equinus* fried in *ol. Nucum, sambucus, ebulus* in *ol. Cost. Emp. de Mucilaginibus*, or *Unguent. de Alstaa*.

If by these Applications the skin is not prevented from rising in Blisters, the Blisters are to be cut; lest the Humours retained acquire a farther degree of Acrimony, and Ulcerate the Parts. If the Parts be Ulcerated, or if an Eschar be made, or the skin burnt to a Crust, the Separation of the Eschar is to be made by Emollients, and when separated, the Exulcerations are to be digested incarned and cicatrized.

If these burns be considerable or the Exulcerations large; to prevent Inflammation and Fever, Bleeding is requisite, and also Purging, especially if the Constitution be ill, and abound with *Cacochymia*. The Diet is also to be regulated according to the Degrees of the Symptoms, and the Constitution of the Patient.

CHAP. VIII.

Of a Gangrene and Sphacelus.



Sometimes Gunshot-Wounds as *Definition*
well as Wounds with great Con- *and Diffe-*
tusion terminate in a Gangrene *rence.*
and Sphacelus; Gangrene is a
tendency to Mortification, and
Sphacelus a perfect Mortificati-

on. Mortifications differ from one another as they are more or less.

A Gangrene or Sphacelus may be occasioned *The Causes.*
by any thing that destroys the Natural Heat
and Texture of the Part. And First, a Gangrene
may be occasioned by too hard Bandage, which
obstructs

obstructs the Circulation of the Blood and Spirits, and consequently the Humours Stagnate and Corrupt and Putrify the Parts. Secondly, A Gangrene may be occasioned for want of Extra-cting of Extraneous Bodies in due time, which occasion Pain and Inflammation, and consequently Tumour and Fluxion, so that at the last the Vessels are so crouded, that they obstruct one another, and the Humours in the obstructed Vessels coagulate and corrupt, for want of a discharge of the superfluous Quantity into the Wound; for First, the Extremities of the Vessels in the Wound being obstructed by the Contusion, the Vessels having no vent into the Wound, they tumify, which is called Fluxion, and then the Vessels tumified occasion Pain, and Inflammation; but how these Symptoms are occasion'd I have elsewhere more fully explained in the first Part. But to proceed, Thirdly, A Gangrene may be occasioned by extream Cold, by which the Blood and Spirits are at once coagulated, and corrupt and putrify the Parts. Fourthly, A Gangrene may be promoted by a Natural decay of Heat, by which means nature is not able to separate and cast off the Corrupted Parts, but the putrified Parts still corrupt and destroy the sound ones. Fifthly, A Gangrene may be occasioned by an undue Application of Medicines, which if they be too Cold extinguish the Natural Heat, so that instead of the Extremities of the Vessels being cleared of that Matter or Contused Flesh, which obstructs the Vessels, and hinders their discharge, they depress the Natural Heat and increase the Obstruction, which choaks up the Vessels, makes Tumour, and consequently Coagulation, Corruption and Putrification. If the Medicines are too hot, they increase the Intemperies of the Part, and instead of correcting their

ill Qualities, they encrease and add to their Acrimony, and render them more corroding; and consequently they fret and destroy the Parts. Sixthly, A Gangrene may depend upon the ill Crasis and Disposition of the Humours, being depraved, either by the Hereditary ill Qualities of the Humours or by an Habitual Indisposition, acquired by the faults of Concoction and the ill depraved Ferments of the Parts; how the Humours may be thus depraved we have elsewhere explained in the First Part of this Book in the Chapters of *Scirrhus* and *Cancer*, and in the Second of *Phagedana* and *Noma*; where we have shewn, that the Corrosive Particles that occasion a Gangrene differ only in degree from these Corrosive Ulcers, they frequently terminating in a Mortification. The Nature of a Mortification likewise may further be illustrated by what we have said of a *Carbuncle* and it's Causes. So that we shall not repeat what we have there said, but only here be content to represent, that a *Gangrene* and *Sphacelus* proceed from a Humour, which by it's Corrosive and Acrimonious Parts destroys the Texture of the Humours, and the Contexture of the Vessels, which may be produced any of the above mentioned ways.

The signs of a Gangrene are a Pale, Livid Colour in the Skin, and a Diminution of the Tumour, Blisters also presently succeed, the Native heat being decayed, and the serum consequently condensing, and becoming too thick to transpire through the Cuticula; soon after the Skin turns black, the Blood also condensing and coagulating in the Cutis. As for the Pale, Livid Colour, and the Diminution of the Tumour, they are occasioned, by the decay of the Natural Heat of the Part, the Parts growing cold and flaccid, and not apt to be distended and puffed up with hot

*The Dis-
tinction.*

hot fermenting Blood ; so that the Symptoms of Fluxion disappear, and the Vessels subside as the Humours lose their heat and fermenting Quality. In Wounds, for the same Reason, the Lips sink and are flaccid, as the Pulse, and sense of the Part both decay.

In a Sphacelus the Part hath wholly lost both its Sense and Circulation, and the Humours coagulate, corrupt and stink. If a Gangrene proceed from Tumour Pain and Inflammation, those Symptoms preceding will make it appear, though the Tumour subside when the part begins to Gangrene. If it proceeds from Cold the Part is first benumbed, the Patient being seized with Horror and Rigor, and a pricking pain in the Part ; the part hath also a redness, which when it mortifies turns black, the Blood before only Stagnating, but now Coagulated. If it proceed from too strict Bandage, the part is flaccid and Insensible, the Circulation both of the Blood and Spirits being intercepted. If it be occasioned through a Natural decay of the Body, the part is emaciated, and flaccid, for want of Blood and Spirits ; and the Extreme Parts are most subject to it, where the Blood and Spirits least shew their Vigour.

The Progress of the Gangrene.

All Gangrenes are dangerous ; but those least, which proceed from Inflammation in the External Parts, and these are more or less so, according to the difference of the Constitution, and the Progress of the Mortification. In Gun-shot Wounds, where they are deep or near the Joynts they are proportionably dangerous. In Fat and Hydropical Bodies, which abound with a great Quantity of superfluous Humours, they are most dangerous, the Temper of the parts and Native heat being soon destroyed. But when they depend upon an Ill depraved indisposition of the Humours

Chap. VIII. Of a Gangrene and Sphacelus.

301

Humours they are most dangerous, being not to be remedied, without correcting that Intemperies.

In a Sphacelus there is no other Remedy, but the separation of the mortified part, the Mortification interposing and hindring the Effects of all external Applications. If any of the Mortified part remains, the putrified Humour presently infects the Humours in the Parts adjacent, and corrupts the Vessels, so that by degrees the whole Member is infected, and by consent of the Nerves the Person is affected with Watching, Dilirium, frequent Faintings, Convulsions, Hiccoughs and cold Sweats, which are the forerunners of approaching Death.

In the Cure, if a Gangrene proceed from a *In the Cure.* flux of Humours Pain and Inflammation, which often attend Gun-shot Wounds, and great Contusion, a moderately cooling and slender Diet are to be observed, to allay the Heat and abate the Inflammation and likewise the Humours flowing to the Part are to be averted and discharged by Bleeding and Purging, and whatever else may contribute to make Revulsion. How that Intention is to be pursued, hath been elsewhere shewn in the first part. Cordials are also requisite to preserve the Natural heat.

In respect of the Part it self affected with the *Scarificati-* Gangrene, as the Gangreen is deep or superfi- *on when* cial it is to be scarified accordingly till it comes *requisite.* to the quick parts and the part bleeds, in doing of which, if any Vessel be cut which makes a considerable flux of Blood, it is to be stopped with an Actual Cautey, since by the crouding in of Dossils, the parts are compressed and the humours choaked up, by which the Mortification will be increased; whereas by the Actual Cautey, the Blood is not only stopped, but the Putrified parts

parts consumed, and the Natural heat roused up. Again if in Scarifying, a Nerve or Tendon be wounded, or be burnt by the Actual Caustery, it will increase the Gangrene; or if sharp Medicines be applyed upon Scarification. To remedy which they are to be divided, and then the part will be easy, and no accidents attend their being cut.

The method of dressing a Mortification. When the Mortification is scarified, and cleansed of the clotted Blood with a *Lixivium* or *Tinct.* of *Myr.* the Scarifications are to be filled up with *precipitate*, or with Dossils dipped in *ol. caryophil.* or *ol. Terebinth.* very hot, or *Aegyptiacum* may be used with *Spirit of Wine, sal. Armoniac.* or *Nitri*, fomenting the Part with a Decocti-

on of *Summit. Absinth. Centaur. min. Card. Benedict. scord. Vincetox. Rad. Aristolochia. rotund. Gentian. spr. Vin. &c.* in a *Lixivium*. Cataplasms are likewise proper *ex farin. hord. fabar. Lupin. Methridat. &c.* in *Lixivio. coct. addend. exymel. &c.* with a Defensative to prevent the Afflux of Humours. When the Ulcer begins to warm, and the Gleet stops, these dressings are to be discontinued, and the part dressed with digestives warm as *Basil. cum ol. Tereb.* after Digestion deterge with *Mund. ex Apio.* or *Paracelsus*, and then incarn and cicatrize.

A Caution in dressing Mortifications.

And here it is to be noted, that by continuing sharp Medicines, too long, the temper of the Part may be so altered, that by retrieving the Patient from one Mortification, another kind of one may be induced, by too much inflaming and heating the Part; therefore the Nature of the Mortification is to be considered, and Medicines applyed accordingly, to preserve the Natural temper of the part in a due *Medium*; neither too much depressing or exalting the Natural heat; for as Medicines contribute to the removing

removing of a Mortification, by restoring that Natural heat that is depressed; or by depressing and checking Corrosive humours too much exalted; so the Nature of the Mortification, and its Causes are to be duly considered, and whether it depends upon the Natural ferment depressed, or whether ill disposed and depraved Humours too much exalted, occasions the Corrosive Qualities.

Of Amputation.

IF a Mortification hath seized a Part, and all External Applications prove ineffectual, When Amputation is requisite. the Actual Cautery is to be made use of, which will consume the Corrosive depraved Humours, and corroborate the parts, by communicating warmth to those that are languishing, and so will prevent the Progress of the Mortification, by which means the Gangrened sloughs will be the more easily disposed to separate; but if notwithstanding the Part does not digest, but Inflammation and Gangrene, the best way will be to proceed to Amputation, before the Spirits are too much exhausted, and whilst the Patient is free from *Dilirium* and other ill Symptoms.

But since Amputation is necessary in other Cases as well as Mortifications, it will not be amiss In what Cases. to consider and distinguish when it is necessary and when not. If then either by Splinters or great Shot, there happens to be a considerable loss of Substance, and the principal Muscles be torn off, and the Bone shivered in peices; or if a small Shot happen to Wound the Joynt of the Elbow, Knee or Ankle, and the Bones are broke or the Bullet cannot be extracted; Amputation is necessary. If the Arm be shattered, Amputation is to be made above the shattered Part,

Part, but if the Ankle be Wounded, the Leg is to be cut off three or four fingers breadth below the Knee, a long stump being useless and troublesome. If the Hand or Foot be Wounded, as much as you can of both are to be saved.

*The manner
of performing
it.*

When Amputation is to be made, the Patient is to be placed conveniently in a clear Light; and held firm and steady. The Member which is to be cut off is to be held and supported by one, whilst another standing behind the Patient is to draw up the Skin and Musculous Flesh, and a Ligature being made two or three fingers breadth above the place where the Amputation is to be made, by which the Vessels are secured from Bleeding and the part benumbed, and the flesh held steady; as also another Ligature is to be made at a Convenient Distance above that, with a Compress upon the the Vessels, for the better preventing the Effusion of Blood when the flesh is divided; this being done and the Musculous flesh hawled up, the Surgeon with a Crooked knife, by a turn of his hand, is to divide the flesh quite round to the Bone, and then scrape the Periosteum off the Bone with the back of it, which would otherwise be apt to choak the Teeth of the Saw: this done the Bone is to be divided by the Saw, as close to the flesh as possible; but where there is two Bones the Flesh betwixt them is likewise first to be divided by a Catling, or other convenient Instrument. The stump being thus smoothed, the bleeding Vessels are to be stopped either by a Button, Cautery, Deligation, or Agglutinatives. But Escharoticks are not applyed without great Inconveniency; since they are not only apt to spread and be painful to the newly divided Nerves and Tendons, but keep the Flesh from rising about

*How the
Bleeding is
to be stopp'd.*

the ends of the Vessels. If the Vessels are to be stopped by Deligation, a clear Light is required to take hold of the Vessel by the Arterial Forceps, and the Member is to be stretched out, that the vessels may thrust out after Amputation; the Arterial Forceps being then ready Armed with a Ligature, you are to take hold of the Vessels and then bring the Ligature over the end of the Forceps and make Deligation. Or the Blood may be stopped by Actual Cautery. *The manner*

The Blood being stopped, the Ligature is to be loosened, and Muscous Flesh and Skin brought down towards the end of the Stump, and as near

possible over the end of it; then with a strong waxed Thred and Needle, take four stitches opposite to each other from side to side, about half an Inch from the Edges of the Skin, lest they should tear out; and with a Moderate Astringent, retain the Skin brought over the Edges of the Stump. And apply Pledgits armed with *ol. iridis, suc. cepar. cum melle*, to the Cauterized Vessels; where it is to be noted, that at the same time the Cautery is applied to the Vessels, the Bone may be also touched with it, which will hasten Exfoliation.

The Skin being thus brought over, the Stump will sooner be disposed to Heal and Agglutinate; and the Extremities of the Vessels will by that means be defended from the External Cold, and the Natural Heat thereby preserved; whereas when no cross stitch is taken, the Stump is broad and long in cure, and the Spirits likewise exhausted by the Great Quantity of Matter discharged.

306 Of Gunshot-Wounds in the Thorax. Part. III.

How the
Blood is to
be stopp'd
with Astring-
Gens.

When the Cross Stitch is taken, if no Actual Caustery be applyed, Buttons of Tow armed with a Restrictive, and dipped in *pulv. Galen.* may be applyed to the Mouths of the Vessels, sprinkling the Stump thick with the following powder, *Rx bol. Armen. farin. Volat. pic. Naval. ana ℥iiij. aloes, Thur. Mastich. sang. Dracon. ana ℥i. gyps. ℥i. fs. pil. Leporis. Corii. Raspat. ana. ℥iiij.* M^{ay} applying a Mixture of the same *cum alb. ov.* on a broad Pledgit over all, which had first been dipped in oxycrate and dried; over this another pledgit is to be applyed broader than the former, and sniped at the Edges that it may ly smooth about the Part; over this an Ox Bladder ready cut and wet is to be placed, and cross Cloths over that; then apply the following Defensative above the Stump, to prevent the Afflux of Humours, *Rx farin. hord. bol. Armen. ana ℥iiij. Sang. Dracon. ℥i. fs. flor. Ros. balust. N. Cy press. pulv. ana. ℥vi. acet. ℥x. alb. ov. No. viij. ol. Ros. myrt. ana ℥i. cera. q. s. pulv. coq. in acet. cetera addend. ut fiat Cerot.* this being applyed with a double headed Rowler, begin upon the Stump, and rowl up to the next Joynt; and then again about the Member, to retain and keep the dressings fast.

The use of Terebinth. But instead of the Buttons above mentioned Buttons dipped in *ol Terebinth.* hot and applyed to the extremities of the Vessels are more effectual, and a large Pledgit dipped in the same upon the Stump instead of the Astringent Powder which will not only stop the Blood, but promote good digestion. These Applications being made another Pledgit may be applyed, spread with the Restrictive above mentioned, and then the Ox Bladder and cross Cloth, with convenient Bandage. But here we are to observe, that in order to the placing of the Buttons upon the Vessels

Chap. VIII. Of a Gangrene and Sphacelus. 307

Vessels, the Ligature is to be slacked a little, when the Stump is smoothed, and the Cross stitch taken, that the Blood spurting out may the better discover where the Buttons are to be applied; and likewise care is to be taken before the Member is rowled up, to take off the Ligatures made upon the Part to prevent Bleeding; otherwise the Parts will soon Mortify and Gangrene, the Circulation of the Blood being stopped, and the part deprived of a Supply of Spirits.

The Part being thus taken Care of, and bound ^{The Second dressing} up, it is not to be opened till the Third Day, ^{when and how.} lest a fresh Flux of Blood should happen, which, if it does, the Actual Caustery is to be made use of; but if no such Accident happen, the Cross stitch being cut, the Stump is to be dressed with digestives, as R. *Terebinth in decoct. hordei*, lot. iii. *ol. Lumbricor.* ʒi. *ss. Gum. Elemi. in præparat. solut.* ʒss. *farin. hord. cribrat.* ʒii. *Vitel. ou.* lb. i. *Croc.* ʒi. *M.* or some other proper digestive. The part digested may be deterged with *mand. ex apio.* or *Paracelsi*, whilst the Wound is digesting and deterging, the Bone is to be dressed with Pledgits pressed out of *Spr. Vin.* or *unct. Myrrh.* to promote the Exfoliation of the Bone, and the thrusting out of a Callus. The Wound digested and deterged, whilst the Bone is Exfoliating, the Part is to be incased, and catrized from the Edges, keeping the flesh down in the Middle, till the Bone is exfoliated, now a Bone is exfoliated we have elsewhere shewn, in the Chapter of an Ulcer with Caries; and how a Callus is thrust out, and how new Flesh is made by the Apposition of the Parts of the Wound, we have explained not only in the Chapter of simple Ulcers, but also the in Third part of the General Intention in the Cure of Wounds.

CHAP. IX.

Of *Fistulae*.

*Descripti-
on.*



Fistula is a Sinuous Ulcer, whose Cavity hath a Callus, continued from the Lips of the Wound through all the Sinuosities of the Ulcer.

The Causes.

These Ulcers grow Callous when by a Gunshot-Wound, the Ulcer is kept long open to wait for the Exfoliation of a Bone the Cause of it is a Gross Phlegm discharged into the Cavity of the Ulcer, which by drying Medicines, and an Evaporation of the thinnest Part hardens into a Callus.

Difference.

These *Fistulae* differ either according to the difference of the Parts affected; or their particular size, figure and number of Sinus's.

*Diag-
nosticks.*

They may be known by their Appearance, and by touching the Parts, as also by searching with a Probe, by which if the Part be Pained, and Blood follows it, then the Callus is not confirmed, but if it be insensible, and does not bleed, the *Fistula* is confirmed, and they discharge a thin Serous fetid matter, the Grosser Serum not being able to discharge it self through the Callus.

*The Prog-
nosticks.*

All *Fistula*'s are difficult to Cure; but the worse as they are of Continuance, especially those that discharge depraved Humours from the Viscera. If they happen amongst the Bones or great Joynts they are difficult to Cure, those Parts being incapable of Dilatation; and not admitting

Incision

Incision: But in such Parts as may easily be laid open, or where the Callus may easily be removed, are more easily Cured.

In the Cure of these *Fistulae*'s, since they are *The Cure.* subject to Pain and Fluxion. The Influx of Humours is to be prevented by Bleeding and Purging, and internal Medicines as in the Cure of *Schirrus* Tumours; observing also a regular and convenient Diet.

The Intemperies and depraved Disposition of the Blood, being thus removed. The disease itself is next to be regarded, and the *Fistula* to be cured by Manual Operation or Use of Medicines.

If the *Fistula* be directly downwards towards the Bone, and without Pain or Matter, it will in time grow up; but if it be otherwise, if it may be done without dilating it, it must be laid open the whole Length, and the Callus being separated, the Cure is the same as of a Common Ulcer.

But if the Orifice of the *Fistula* be so small, that it cannot be laid open; in order to dilate it, Tents made of prepared Sponge, *Gentian* or *Aristolochia* Roots will be necessary. And that the Part may more easily dilate, it will be convenient Externally to make use of such Medicines, as are Emollient and Discutient, to soften the indurated Part, and to discuss the Humours settled about it. As *Rad. althae. lil. enula. Campan. sigil. Solomon. Cucum. agrest. sem. lini. fenugreci medul. ossium, exung. porc. human, anseris, Unguent. de Althae, Gum. Ammon, Galban*, which may be used in the form of Fomentations or Cataplasms; also *Emp. de Mucilagibus, Diachyl. cum Gum. or de Ranis cum Mercurio*, may be serviceable. The *Fistula* thus disposed to dilate, may be laid open, and the Callus removed and cured, as a common Ulcer.

The Use
of Cathere-
ticks.

But if it be reasonable to propose the Cure by Medicines; when dilated, the Callus may be consumed by Catharticks, as *Lap. Caust. Vigonis, troch. de Minio* or *Arsenicum*, or *R. cera, Resin. ana ℥i. sublimet. ℥ii.* differing the proportions as the case may require it Stronger or Weaker; with which Sponge is to be prepared, as may be convenient, making the Tents bigger or less; or the following Injection may be used, stopping up the Orifice after the Injection with Wax, *R. Unguent. Aegyptiac. ℥ss. sublimet. ℥ss. Arsenic. ℥i. Lixiv. Sapon. ℥i. aq. Rosar. ℥ii. aq. plantag. ℥v. coq. ad tertiae partis consump.* a little of which is to be injected two or three times a day. But when these Corroding Medicines are made use of, care must be taken, lest they offend any Parts underneath; and likewise, whether the Callus be extended the whole Length of the Sinus; otherwise the Parts where the Callus is not formed, will be consumed before the Calosity is removed.

Pain and
Inflammation
or how re-
lieved &c.

If by the Use of these sharp Medicines, Pain and Inflammation be occasioned, the Pain is to be relieved by Lenient Emollient and Anodyne Fomentations as *fol. Malv. Bismalv. hyosiam. &c.* and the Part dressed with *Basilicon cum ol. Lil Ung. de Althaea &c.* applying a Defensative to prevent the Influx of Humours. The Inflammation abated and the slough separated, the Ulcer may be deterged with the following. *R. Terebinth. in aq. vita lot. ℥iii. suc. Apii Cynogloss. ana ℥vi. mel. Rosar. ℥i. ss. coq. ad suc. Consumpt. deinde add. rad. Aristoloch. rotund. pulv. ℥vi. farin. Lupin. ℥ss. M* The Ulcer sufficiently deterged, by an Addition of *Myrrh. Thur. aloes, sarcocol. &c.* the forementioned Detergent will incarn; and the Ulcer incarned may be cicatrized with *Unguent. alb. Camph. Desicativ. rubr. &c.*

If the Bone be Carious, it is either to be removed *if the Bone* by Actual Caution or Rugining, as it is deep or *be Carious* superficial; and the Bone to be dressed with such *what is to* Medicines as promote exfoliation; but if the *be done.* Bone be covered by a Nerve, Tendon or Artery, so that it cannot be relieved by Actual Caution, nor the Application of proper Medicines, then it is to be eased by proper Injections or Unguents to palliate the Symptoms, and the Influx of Humours is to be prevented by Bleeding, Purging, and Internal Alteratives, and a due Regimen in Diet.



A
 SYSTEM
 OF
 Rational Chyrurgery.

PART. IV.

CHAP. I.

Of Fractures.

Definition.



Fracture is a Solution of Continuity in a Bone suddenly made, by the Violence of some External Accident, as Contusion or Fluxure. By Contusion a Bone is broke, when by a Blow with a Blunt Instrument, or the force of some weight the parts of a Bone loose their Continuity, in which Cases the

the Flesh about the Bone is bruised as well as the bone it self. When a bone is broke by Flexure, the Flesh is seldom contused, except by the edge of the Fractured bone internally.

Fractures differ from one another, either according to their Figure, being either right according to the length of the Bone, or Transverse, or obliquely. Secondly, they differ according to their Magnitude, being large or small. Thirdly, according to the Difference of the Bones fractured, whether it be the Bone of the Leg, Thigh, Arm, &c. Fourthly, as they are simple or compound.

The Causes of Fracture is external Violence made by Accidents, as a Blow, Fall, Pressure, &c.

A Fracture commonly is very evident, or may be perceived: First, by crackling of the separated Bones when we handle them. Secondly, by the Impotency of the Part, being disabled from performing it's Office. Thirdly, by the violent Pain and Distortion of the Part, or a Fracture may be found out by comparing one Part with another, which is not damnified, the Fractured Part being shortest. In Compound Fractures, where a Wound is complicated with the Fractures, either the Bones thrust themselves out through the Wound, or the Fracture may be perceived by searching with a Probe, or feeling with ones finger, but sometimes a Bone is fractured, without mis-placing the Extremities of the Fractured bones, the Part appearing crooked, which is cured by Extension without much Pain or Trouble. If a Fracture be Longitudinal, The Part will appear thicker than usual, and painful and unequal.

The Prognosticks.

Fractures are more dangerous in great bones than in small ones, and where two bones are Fractured than if only one, as in the Leg or Arm, where there are two bones. Fractures near the Joynts are more Painful and Dangerous than if they happen near the middle of the bone, and more difficult to Cure. If they be broke in shivers, and the shivers prick the Nervous Parts they occasion ill Accidents. Compound Fractures are more dangerous than simple Fractures.

Intentions of Cure.

In the Cure of Fractures, The First Intention is to Joyn the Fractured Parts together. The Second is, to keep them so joyned. The Third, to preserve the Tone of the Part. The Fourth, to generate Callus. The Fifth, to correct ill Accidents.

The First Intention.

In order to the first Intention, Extension and Coaptation are necessary. For since in Fractures the Bones are distorted, and the Rectitude of the Part lost, extension is requisite to bring the Parts right again, and that the Parts that stick out, and lye unequal, or ride over one another, may be reduced to their Natural Position, for it often happens that for want of due Extension to reduce the bones to their proper places, the Limbs are shorter than they would be, if the bones were rightly reduced; besides when they are not reduced as they ought to be, they are apt to fly out of their places, and occasion ill Symptoms.

How Extensions are to be made.

As for the degree of Extension it ought to be proportionable to the Nature of the Fracture, and the greatness of the Part to be extended, that the ends of the Fractured bones may not rub and fret against one another, whilst they are reducing, lest any of the Fractured bones being broke off, should fall between the main bones and hinder their

their Union, or falling externally and pricking the Membranes, should occasion violent Pain; besides if the Extension be not sufficient it will be impossible to reduce the Bones into their proper places, which will be apt to lye one over another. On the contrary, if the Extension be too violent it will be apt to occasion ill Symptoms, as Convulsions and Inflammation. But if the bones be Large as in the Thigh, Legs and Arms, stronger Extension is required, than in smaller. If the Bones of the Arm be both broke, the Radius requires the strongest Extension, having no Muscles to draw it upwards. In making Extension care is to be taken, to keep the Part in such a posture, that the fibres of the Muscles may be extended according to their Rectitude. In Children and young bodies the parts more easily give way to extension than in old ones, where the parts are more firm and dry.

When a bone is Fractured, the sooner it is reduced the better, for after the second day, Pain and Inflammation will occasion a great Defluxion of Humours, which may produce a Mortification, or at least, make the Extension difficult and dangerous; therefore if it is not done before there is much Tumour and Inflammation, the Inflammation and Tumour are first to be restrained, by proper Lenients and Repellents, and Expulsive Bandage; by which means the Inflammation abating, which is about the Ninth or Seventh day, the Extension will be more easily made, and the Coaptation and Reduction performed with less difficulty.

*How ill
Symptoms
are to be
prevented.*

The method of making Extension. The manner of making Extension is threefold, First, by Hand which is the Gentlest way of making Extension; in performing of which the Chirurgeon's hand is to be placed near the Fracture, lest the sound Part be hurt by the Compression. The Second degree of Extension is, by Funes & Habenzæ, a convenient Bandage being made, by which the Part is to be extended. The Third way of Extension is by proper Engins, which are of use in Parts, where great Extension is to be made. When sufficient Extension is made, care must be taken to loosen and slacken the Extension gradually, whilst the Operator endeavours gently to press the Extremities of the bones into their proper places, so that they may lye smooth and equal; and if there be any Splinter which cannot be placed smooth and even, it must be moved and taken out, by making Incision. Signs of a good and perfect Coaptation are, first, the likeness and equality of the Fractured Part with the sound. Secondly, the smoothness and even position of the parts when we handle them, there appearing no Inequality. Thirdly, they Ease the Patient finds, and Abatement of Pain. But when a Part is Fractured, before Extension we are to observe, whether the Part be Fractured in more parts than one, and make Extension accordingly.

The Second Intention by Bandage.

The Second intention is to be performed by Bandage, which is to be so made, that it may not only preserve the Bones joyned together in their proper places, but may also defend the Part from the Influx of Humours. This is done by three Rowlers made of Cloth, which may lye soft and easy upon the part, yet strong enough to keep the part firm, and bear the Strefs of Rowling without breaking.

With

With the First Rowler you are to take three ^{The method} turns about the Fracture, and then Rowl upwards ^{of using the} and make the Rowler fast. By this the Fracture ^{first Rowler} will be kept steady, and the part defended from Fluxion and consequently Inflammation.

The Second Rowler being as long again as the ^{How the} former, is to begin upon the Fracture, where ^{Second} having taken a turn or two, the opposite way ^{Rowler is} to which the first Rowler was turned, it is to be ^{to be ap-} Rowled downwards, three or four turns, and ^{plied.} then returned upwards again, and passing over the Fracture is to terminate, where the first Rowler ended. This Rowler is passed the opposite way to the first, that if the Muscles were distorted with that, they might be restored to their proper places again. Over these two Rowlers the Splenia or Compresses are placed, being made of Linnen Cloth four times doubled, of a convenient Length to reach over the Fracture, and so narrow that five or six may be placed about the Fracture, a fingers breadth from one another.

The third Rowler is to be upon these Com- ^{The man-} presses, which consisting of two Heads: a turn ^{ner of using} is to be taken upon the Fracture and one part ^{the Third} of it rowled downwards, and the other upwards. ^{Rowler.} Where it is to be observed, that in passing these Rowlers, they are to be bound streighter upon the Fracture than any other part, to prevent Fluxion, and to prevent the Bones from slipping out of their places. Yet care is to be taken not to bind so tort, as to hinder and obstruct the Circulation of the Humours. If the Day after Rowling a small and lax Tumour appear below the Bandage, it is a good Sign, that it is neither too hard nor too slack, but if there be no Tumour it shews that the Bandage is too slack, and if

if there be a great and hard Tumour, that shews that the Bandage is too hard, and obstructs the Reflux and free Circulation of the Humours.

When the Fracture is to be opened.

If no ill Accident happens the Fracture is not to be opened till the Seventh Day, when the Bandage will begin to slacken of its own accord, the Fluxion and Inflammation being then over, and the Parts relaxed ; and then if there be any Error in the Position of the Part or otherwise, it is to be mended, and since by so long a Retention of the Humours discharged by Transpiration, they are apt to grow sharp and cause a violent Itching, which often produces a painful exco-riation, and redness with Inflammation, it will be requisite to bath the Part affected with warm Water, to give a breathing to the Parts, and ease them by a Gentle perspiration.

The Part being thus opened, and relieved (which is not to be done sooner lest the Bandage slackened, the Part should give way to the Influx of Humours,) and the Danger of Fluxion and Inflammation over, the Part is to be bound up again, applying *Ferula* or Splints instead of the Splenia or Compresses. Yet if the Fracture happen near the Joynts, or where Splints cannot be conveniently applyed, Compresses wet in the Whites of Eggs may be continued the whole Cure. But where Splints may be safely used, they keep the part both steady and straight, and may be made either of Tin, Scabboard, or Wood, sewed up in Linnen Cloth.

How the Third Intension is performed.

The Third Intension in the Cure of a Fracture is to preserve the Tone of the Part ; and since Nature cannot so well perform her Part, whilst the Body abounds with ill disposed Humours, which may affect the Part, Bleeding is convenient to empty the Vessels, and diminish the Quantity of any percent Humour, and the Body

Body is also to be kept open by Clysters, the Patient observing a convenient and slender Diet, that the Body may not be filled with gross Humours, whilst confined and debarred from the Advantage of Exercise. Externally Astringent Repellents will be convenient, as *ol. Ros. Myrt. balust. ros. rubr. sang. Dracon. bol. Armen.* made into the form of a Liniment with Red Wine, which may be spread upon Cloth, and applyed to the Part or *Emplast. Diapalm.* with some of these powders, and a sufficient Quantity of Oyl of Myrtles and Vinegar may be employed in the Form of an Emplaster, or Oyl of Myrtles and Roses with Red Wine and the Whites of Eggs; these Astringents not only prevent Fluxion, and strengthen the Tone of the Parts by contracting its fibres, but, along with Bandage, help to prevent or expel any Humours that might settle in the Fractured part about the Extremities of the Bones.

But besides External Applications, a due *A due Position of the Part is also necessary to preserve the temper of the Part.* And first the Part ought to lye soft, lest any hard thing pressing upon the bruised parts should occasion Pain and Inflammation; the Posture likewise ought to be equal and raised up, lest the Part should be distorted, or the Humours should happen to fall upon the Part. If the Leg be fractured it ought to be placed so, that the Hollow of the Ham and Heel be filled up, that every part may bear its own weight without pressing upon any particular Place.

The Fourth
Intention.

The Fourth Intention is to promote the Generation of a Callus; which is to be endeavoured as soon as, by the use of Astringent Repellents the Part is strengthened and the danger of Inflammation and Fluxion is over, which is about the Seventh Day. Medicines which are proper to promote the Generation of a Callus, are such as by their warm and Emplastick Virtue and Qualities, preserve the Natural Heat, and so assist Nature in her Work; in tender Bodies where Nature is strong and able to exert her self, Medicines moderately warming are sufficient, as the Whites of Eggs with *farin. Volatilis*, but in stronger Bodies *pulu. Myrrh. aloes. acacia. gum. tragacanth. Thus. Labdanum, &c. Emp. Stict. Paracels. Diapalm. Oxycroc.* either separate or mixed, or *Catagmaticum*. As for the Nature and Manner, how a Callus is formed, and how it is assisted by External Applications, I have already explained in the second Part, in the Chapter of Ulcers with a *Caries*, and therefore shall not repeat it here, nor shall I here spend time, or enlarge this Book with disputes or arguments to confute the Opinions of others, being content to propose that which I think most reasonable and consonant to Nature, the Body being considered, as a Vascular Engin, and the Humours being liable to be affected by the evident Qualities of Medicines. To what therefore I have already said before of the Nature of the Generation of a Callus and why Medicines are assistant to Nature, I shall only add, that in Fractures; the Medicines externally applyed have not so immediate an Influence upon the Bones as in a *Caries*, where there is only the Thickness of the *Caries* to interpose; and as in that Case, Medicines assist the Generation of a Callus, their warm Effluvia exciting the Natural Heat, so here they encourage

How a Callus
is generated.

encourage the Natural Heat in the Bones not only by their Subtle Effluvia penetrating through the pores of the part, but also by warming the parts about the Bones, which consequently excites the Natural Heat in them ; besides as their gummy and resinous parts, not only warm the external parts, but by clogging and obstructing the exit of the serum by Transpiration, as all viscous Bodies do, they seem to add an accidental Warmth, by retaining the warm Effluvia of the Body, which encreasing the Natural Heat of the Part, seems to assist the Native Heat in thrusting out a Callus, as I have observed, in the Chapter of an Ulcer with a Caries.

What I shall here observe further is, that as a Gentle Heat is sufficient in tender Bodies, where the Bones are soft, to encourage a Callus, as in Children, so it is worth Noting, how in grown Bodies the softer the Bone, the sooner it thrusts out a Callus ; as in small Bones sooner than in great ones ; and as a Callus is formed after the same manner as flesh which supplies the loss of Substance in a Wound or Ulcer, so in fleshy Parts it rises faster than in Bones, if no superfluous Moisture of a heterogenous Quality disturbs and interrupts Nature in her Work.

Now as too much Moisture is prejudicial How the in incarning, and also in the Generation of a Cal- Generation lus in a Caries, so in forming a Callus in Fra- of a Callus ctures, if the Blood is disturbed with too much is hindered. Superfluous Serum, it delays the Confirmation of a Callus ; for which reason Internals are given, which incrassate and thicken the Blood and Serum, that the Apposition of firmer Parts which come nearer to the Consistence of a Solid Body may the more easily assume a Solid Form, thus *Osteocolla ʒi. in aq. Rad. Symphyt.* is esteemed a Sphecifick in promoting and confirming a

Callus, it rendring the Serum of the Blood, as well as the Blood it self of a better Consistence; so that the Serum flows not so plentifully into the Part to disturb Nature, and overwhelm the Callus with too much moisture; and the Blood it self sooner forms a Callus, it being disposed to a more ready Cohesion and Apposition of Parts.

Whilst a Callus is forming, the Rowling ought not to be so streight as before, the Parts requiring a free Circulation.

Whether a Fracture be Transverse or Longitudinal, the same method of Cure is to be made use of, only a stricter Bandage is to be observed in the Latter, to keep the Bones close together, which otherwise will be apt to rise and make the the Parts Gibbous.

*The Fifth
Intention
to resist ill
Accidents.*

The Fifth Intention is to correct those Accidents, which may prolong the Cure of Fractures. As Pain, Inflammation, Apostemation, Gangrene, Excoriation, a Luxuriant Callus, or too little of it. Weakness of the Part and a depraved figure. If Pain affect the Part, Lenients; and if it be attended with Inflammation, Lenient Repellents are proper to resist the Influx of the Humours, that occasion those Symptoms; if there appear any danger of a Gangrene, the Bandage is to be slackened and the Part fomented with a Lixivium with *Absinth. scord. Centaur. &c.* applying a Catapsalm proper in such a Case. If the Fracture be attended with Itching, bath the Part with warm water, and if excoriated, *Unguent. alb. camph.* or *Nutritum* and *populeon* may be used which will allay the Heat of the Humours, and Cicatrize.

If the Callus be too great, it will be perceived to be so by being protuberant, and painful, when pressed upon, the Part being likewise rendered unapt for Motion. When this happens, a spare diet is to be ordered, that the Luxuriant Callus may not be supplied with Superfluous Moisture, and the Influx of it is to be resisted by stricter Bandage, and that which is already lodged in the Callus is to be consumed and dispersed with Discutients in the form of Fomentations, as also Discutient Emplaisters are to be applied as *Emplastr. de Cicuta, de Ranis cum Mercurio, &c.*

But if the Callus be less than it ought to be, the Bone is weak, and the Callus not perceivable; in which case a plentiful Diet consisting of such things as afford good Nourishment is necessary; and the Bandage is to be slackened; the Part is also to be bathed with warm water till the skin is tumified and begins to be red, that the Vessels being extended may bring Humours more plentifully to the Part. If the Part be emaciated, by bathing too much with warm water, and too strict Bandage, then bath with fresh broths, and use such Embrocations as may warm the Part, and by clogging the Pores of the Skin, retain the natural heat and moisture which would otherwise transpire through the pores of the skin.

If the Part happens to be of a depraved figure, the Bone being not well set, if the Callus be not well confirmed, it must be broke and set again, to remedy that deformity, to which end the Callus is first to be softened with Emollient Decoctions, Liniments and Emplaisters, but if that will not do, it is better to be content with such an Accident, than hazard the breaking of it, when confirmed by it's long Continuance.

Thus much being said of the Method of Curing Fractures, and relieving their Accidents in General, I shall only add briefly the Method of reducing particular Fractures; the Method of Cure, appearing from what hath been delivered above.

*The method
of reducing
Particular
Fractures
and the
time of
their Uni-
ting.*

If the Bone of the Nose be broke, the Part raised is to be depressed, and the depressed Part is to be raised with a Spatula; then a hollow Pipe or Tent is to be put up the Nostrils, and a Fracture Plaister applyed externally: A Callus will unite it in about twelve days. If the Jaw Bone be broke, the head is to be drawn backwards and the Bone forwards, and the Fracture reduced, placing the fingers both on the inside and outside. This Bone unites in about twenty days. If the Clavicle be broke, the Arm is to be drawn backwards and the head forwards whilst it is reduced. It unites in twenty four days. If the Scapula be broke near the Joynt, it is for the most Part Incurable. If broke near the Acromion, the Arm is to be pulled downwards whilst it is reduced. If it be broke into several peices which are not likely to unite, Incision is to be made, and the loose peices are to be taken out, leaving the rest to Nature: It is healed in Forty Days. If the Sternum be broke lay the Patient on his back, pressing both shoulders backwards; then press the Ribs backwards and forwards till the Bone be reduced: It unites in thirty days. A Simple Fracture of the Ribs may be Cured in twenty days, by the Application of a convenient Plaister for Fractures: If they bend inward, let the Patient hold his Breath whilst they are reducing. A Simple Fracture of the Joynts of the back-bone, may be Cured in twenty days; but if the Spinal Marrow be hurt, it is Mortal. The Hip Bone will unite in twenty

ty

ty four days. If the *Os Humeri* be broke, first bring the Elbow downwards, and then extend and reduce it, and continue it in that Posture till Cured. This Bone will unite in forty days; and so will the Thigh Bone. The Bones of the Cubit and Leg unite in thirty days. If the Patella be broke length-ways, it will unite in twenty days.

CHAP. II.

Of Compound Fractures.



Compound Fracture is a solution *Definition.*
of Continuity in a Bone made by
external violence, complicated
with a Wound.

In a Fracture with a Wound, if *How Com-*
neither the Bone be bare, nor *pound Fra-*
start out through the Skin, the ends of the Fra- *ctures with-*
ctured Bones are to be brought together, as in a *out Continu-*
simple Fracture; and the Lips of the Wound are *tion are to*
to be brought together by Suture; if they are *be treated.*
not too much contused. The Lips of the Wound
thus brought together are to be retained so by
proper dressings, which may not only ease the
the Pain, but prevent the Influx of Humours,
and dry up what hath already affected the Part;
by which the Wound will be prevented from
Apoftemation, and the Bone from being fouled.
And this is to be done by proper Astringents, as
proposed above in Simple Fractures, *viz.* by A-
stringent powders mixed with the Whites of Eggs

and red-Wine, which is to be spread upon Cloth and so applied. This being done the Part is to be bound up with proper Bandage. Bandage in these Cases is to be made of two or three short Cloths, foulded three or four times double to make them the stronger; and of such a Convenient Breadth as to cover both the Lips of the Wound and the Fractured Parts; and of such a Convenient Length, as to reach once about the Part, and to stitch on the most convenient side. Under these, Compresses of Tow or Double Cloths, may be placed, to keep the Lips of the Wound down, and fill up the Inequalities, as well as promote the Expulsion of Matter. Sometimes the Fractures is such, that Splints are altogether necessary, and when they are, they are to be applied so, that the Lips of the Wound may be kept even, and that they may not hinder the Discharge of the Matter, lest being pressed back into the Wound, they should dilate it, and foul the Bones. But if the Bone be bare and thrust it self out of the Wound, the Bone is first to be reduced to its Natural Position, and the Wound stitched and dressed as before directed; but if the Bone be foul, when the two ends of the Bones are united and the Callus hardened and dried, the Bone may be exfoliated, by a Mixture of *Aloë* and *pulv. Myrb.* dissolved in Spirit of Wine, applyed hot upon an armed Probe; and the Bone exfoliated, the Ulcer is to be cured by the Ordinary Intentions.

When
the Bone is
thrust out
what is to
be done.

When the end of the Bone thrusts it self out, so that it cannot be reduced without violent force, the end of the Bone is to be sawed off, before the Part is affected with a Gangrene, and then the Lips of the Wound are to be brought together by Suture, and dressed with a Warm Digestive, as *Basil. cum ol. Terebinth.* and *Emp. Diachalcit.* malaxed

laxed with *ol. Rosar.* over it, applying the following mixture over all to prevent Fluxion and Inflammation, *R. fl. ros. rub. balust. Myrt. Bol. Armen. Sang Dracon. ana q. s. pulv. et cum alb. ovor. ol. rosar. et aceto. M. ad consistent. mellis,* this being fastened with Bandage, and Splenia over the Bandage, to steady the Part and keep it firm, Ferula are to be placed over the Splenia, and fastened on by convenient Ligatures, the Part is to be placed in a proper Posture upon a Pillow, for the better security, in a Wooden Case, to keep the Parts in a Constant steady Position.

But these Fractures attended with large ^{Regard to} Wounds, if near a Joynt, are subject to violent ^{be had to} Pain; the Tendons and Musculous Flesh being ^{the Acci-} torn and stretched by Extension, which frequently occasions ill Symptoms, as Fever and Mortification, in which Case the Patient is to be treated according to the Common Intentions in those Accidents; as the Fever is to be checked by Bleeding, Clysters, Anodyne Draughts and Emulsions, &c. and the Mortification scarified and dressed, with *Egypt.* and *Spr. Vin.* regard being still had to the Wound and the Bones which are to be united.

But care is to be taken after Extension is made, ^{A Caution.} and the Bone reduced, if there be any loose Splinters of Bones, to take them out, lest by pricking the Periosteum, or other Parts, they cause Pain, or Apostemation. The Part being thus cleared, of what is extraneous, or likely to occasion ill Accidents, and dressed with Astringent Repellents, to prevent Inflammation and the Influx of

Humours, Bandage is to be made, so that you may come to dress the Wound, without disturbing the Fracture. Care is likewise to be taken, not to offend the Parts with the Splints, if occasion requires the use of them, till the Inflammation be over, and the Wound well digested. When this is done, the Bones stripped of the *Periosteum* are to be exfoliated and incarned, and the Ulcer Cicatrized by Epuloticks.

For
flux
rem



A

SYSTEM

O F

Rational Chyrurgery, &c.

 P A R T. V.

C H A P. I.

Of Luxations in General.

Luxation or Dislocation is the forcing of a Bone out of it's Natural place, so as to obstruct Motion. *Definition.*

The Causes are either External, *Causes.* proceeding from some External Force; or Internal, depending upon such an Afflux of Humours in and about the Joynts, as to render the Ligaments too soft and lax.

Before

The Nature
of Articulation.

Before we can well understand the manner of Cure, it is requisite to know the Connection of the Bones one to another, and how many ways they may be dislocated, which will the better enable us to make use of the best Method in reducing of them. The Connection of the Bones is either by *Symphysis* or Articulation.

By Symphysis how many ways.

Symphysis is a Connection of Bones for firmness, and is either without, or by the Interposition of, a Medium. Of those which are joyned without the Interposition of another Substance, there are three sorts. *viz.* *Suture* which is a Conjunction of the Bones in the Skull by being indented one with another. *Harmonia*, which is a Conjunction of the Bones by Mutual Contact, without indenting, or the Interposition of another Substance. *Gomphosis*, which is a Conjunction of the Bones, as of the Teeth in the Socket.

Of that sort of *Symphysis* which is made by the Interposition of another Body, there are likewise three sorts. *viz.* *Syffarcosis*, when two Bones are joyned together by the Intervention of Flesh. *Synneurosis*, when the Bones are joyned by Ligament as the *Ossa pubis*; or *Synchondrosis*, when they are joyned together by Gristles, as the Sternum to the Ribs.

How many
sorts of Articulation.

Articulation is a Connection of the Bones with aptness for Motion, and is either Apparent or Obscure. That Articulation which serves for Apparent Motion, is called *Diarthrosis*. That which serves for obscure Motion, is called *Synarthrosis*, of each of which there are three kinds. As,

Enarthrosis,

Enarthrosis, where a round head is received by a Cavity; which if it be deep is called *Cotylæ*; if shallow *Glene*, as the Cavity of the *Os Coxa* which receives the Protuberance of the *Os Femoris*; or the Cavity of the *Scapula*, which receives the *Os Humeri*.

Arthrodia, where the Cavity is very superficial, as between the head and the first *Vertebræ* of the Neck, which is *Diarthrosis*, and betwixt the *Carpus* and *Metacarpus* in *Synarthrosis*.

Ginglymus, when the two Bones are mutually received into each others Cavity, as the Elbow, in *Diarthrosis*, and the *Vertebræ* of the back in *Synarthrosis*.

Luxations differ according to the Part affected, *Differen.* as whether it serves for obscure or apparent *Moc.* Motion; or according to the Degree, as whether it be wholly dislocated, or partly, by the relaxation and stretching of the Ligaments, or from the Situation of the Part; whether upwards, downwards, forwards or backwards, &c. They differ also according to the Accidents that attend them, as Inflammation, Wounds, &c.

The Signs of a Luxation, are the loss or imperfect Motion of a Joynt, and a difference from the *The Diag-* found Part; as also a Cavity on one side, and a *nosticks.* Protuberance on the other. The Part is also longer or shorter as the Part is distorted.

In Children and Moist Bodies, the Bones are easily reduced, but apter to slip out again; which *The Prog-* is otherwise in dry and grown Bodies, they *nosticks.* being in them, hard to reduce and more easily retained. If of long continuance they are hard to reduce, as well as to retain them in the proper place. Those of the *Vertebræ* of the back, if occasioned by External Accidents, are commonly Mortal, the Spinal Marrow being hurt, by the violence of the Cause; but if made by the congestion

sion of Humours they are often cured. When a Bone is dislocated it presses upon the adjacent Parts, which as they are more or less sensible, the Pain and Accidents that attend them are violent or more remiss.

How many Intentions In the Cure there are four Intentions. viz Extension, Reposition, Ligature and Position.

The First. Extension ought to be gentle, yet so much that the ends of the Bones may not rub upon one another whilst they are reducing.

The Second. When the Extension is made, the Luxated Bone is to be reduced into its proper place the way it slipped out. If it lye on the right side, it must be forced back to the left. If it be dislocated forwards, it must be pressed backwards. If a Bone hath been long dislocated, or the Contraction of the Muscles is great, the parts are to be relaxed before the Extension with Emollient Embrocations, as *Unguent. de Althæa. axung. porcin. ol. lil.* and in Case of Inflammation, *ol. Ros. myrt.* mixed with Emollients, lest by violent Extension the Inflammation should be encreased, or by stretching the Parts too much, the Nerves be affected and cause a Paralysis.

The Third. The Bone being reduced is to be kept in its place by Ligature, having first applyed such Medicines as resist the Influx of Humours, and strengthen the Tone of the Parts, which are Astringents, as *bol. Armen. Sang. Dracon. farin. volat. fl. rosar. balust. cum. alb. ovor. aceto.* or *Vin. rubr.* or *℞ Thur. Mastich. bol. Armen. sang. dracon. ʒss. farin. volat. ʒi. cum aceto. M.* If there be great Pain embrocate *cum ol. Ros. Lurabricor.* and apply *Emplast. de Bol.* or *De minio*, then a Compress being placed on that side it was dislocated, lest it should slip out again, the Part is to be bound up as Circumstances require, and retained in its proper place.

The

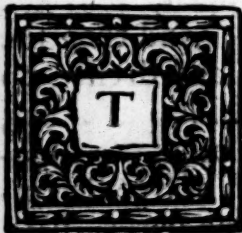
The Fourth Intention which is due Position *The Fourth.* of the Part, ought to be such, that the part may lye soft and easy, and a little raised, that the Humours may be less apt to settle about the Part; yet the Part is not to be too much bent, lest the Muscles constantly contracted should grow shorter. If the Shoulder be dislocated, the Elbow ought to be placed to the side and the Hand upon the Breast. If no Accident happen, it is not to be opened till the Seventh Day, and then the Joynt is to be moved to and fro, and dressed up again, with strengthning Medicines, avoiding greasy things which soften, and relax the Ligaments. If the Part Itch, for want of free Perspiration, to give a breathing to the parts, bath them with warm Water, or a Decoction of *Summit. absinth. fl. ros. rubr. balnst. bac. Myrt. Junip. &c.* with *Spr. Vini.*

If a dislocation be occasioned by a Congestion of Humours, which relax the Ligaments and Tendons, or are gathered in the Joynt, they are to be attenuated and discussed by Emollient Discutients, as *R. rad. Althææ. ℥vi. rad. Cucum. asinin. ℥iii. sum. Majoran. M. ii. in Brodio ex pedibus vitulin. coct. et contusis add. pulv. sem. fenugraci et lini. ana ℥i. ol. lil. axung. human. ana part æq. M. F. Cataplasma,* or *Emp. de Mucilagin. or Emp. de Ravis cum Mercurio,* may be applyed. The Matter thus dispersed, the Bone is to be reduced, and Medicines applyed, as directed in the third Intention, with good Bandage.

C H A P. II.

Of the Dislocation of the Lower Jaw.

*Descripti-
on of the
Articulati-
on.*



The Lower Jaw hath two Processes on each side. One Acute, called Corona, to which the Tendon of the Temporal Muscle is fixed, and by which it is moved in the Hollow of the Cheek, having no socket to move in. The other hath an obtuse round Head, called Condylus; which is received by the first Sinus of the *Os Temporum*, in which it moves. It is kept close by the Temporal Muscle, and the Masseter which is fixed to the outward broad Angle on the other side the Corona; and by the Pterygoides, which is fixed to the Inside of the Broad Part of the Jaw. These Muscles by their Tonick Stricture keep it in its Natural Situation, but when Contracted hawl it up more closely. When they are violently contracted, and the Jaw pulled down before by the Muscles, that open the Mouth, they hawl it up out of it's Sinus, and cause a Dislocation, which sometimes happens in Gaping, or when they contract violently in gnawing any thing that is hard. This Bone can only be dislocated, by sliding out of the fore-Part of the Sinus, into the Cavity of the Cheek, under the *Os Jugale*.

The

The Signs of it being dislocated, are, it's being thrust forwards; so that the Teeth, start out below those of the upper Jaw, so that the Person can neither chew, nor swallow, nor speak, nor shut his Mouth. The Temporal Muscle appears rigid before the Jaw is tumified; and if the Dislocation be on one side only, the Mouth is distorted as in a Spasmus.

The Reduction is difficult, if not done before the Part is tumified; and dangerous, since the Person can neither eat nor drink.

In reducing this Bone, the Person is to be seated firm, and his Head held steady; then a couple of Wedges are to be placed close between his great Teeth, as far as they can be thrust, your Thumbs being close by them, and your Fingers externally under both Jaws, making a moderate extension, & at the same time raising the fore Part of the Jaw, and depressing the further part. If the Teeth are too sharp to press your Thumbs upon them, a sould or two of Linnen may be put between. If the Dislocation be only on one side, move to the opposite side, and proceed as before directed, making a quick moderate Extension. If the Bone be reduced, the Teeth will meet equally, and the Mouth open and shut, and the Speech will be recovered. To prevent a Second Dislocation apply a Defensative with Bandage. And if Pain continue, embrocate the Temporal Muscles with *ol. Lumbricor.* &c.

C H A P. III.

Of the Dislocation of the Cavicle.

*The Description of
the Articulation.*



The Clavicle or Collar Bone is crooked and of the Figure of an S. being thicker and almost three square at one end, which is fixed in a Cavity in the first Bone of the Sternum, and tyed by a strong Ligamentous Membrane. The other end which is broad and flat is joyned to the Acromion, keeping the shoulder at a distance from the Sternum, and assists those processes, that prevent the Shoulder Bone from slipping upwards.

*How many
ways dislocated.*

It may be dislocated outwardly at the Sternum, rising up like a Lump from the Breast. At the Acromion, upward and forwards. It is commonly occasioned by a fall, pitching upon the Shoulder, and is discovered by its protuberance.

The Progress.

The Clavicle is easily reduced but hard to retain in its Place when reduced, It's extremities being smooth, and the Cavities small which receives them. The Arm is disabled in some of its motions, if it be not reduced.

*The manner
of Reduction.*

The Clavicle is reduced, by drawing the Shoulder backwards, and pressing the end into its Cavity either at the Acromion or Sternum. When reduced proper Emplasters and Compresses are to be applyed, and the part is to be kept in its place by Bandage, which may be assisted by the Use of Splinters. The Bandage ought to be

be made with a double headed Rowler, which is to pass over the Shoulder, and under the Arm, making a sufficient Number of Turns, to retain both the Part and the Dressing. The Patients Arm is to be kept up with a Napkin, with his Hand up to his Breast. If the Part continue in it's place, it is not to be opened till well, which will require time, before a Callus cements it; the Ligament being broke, which held it in it's Natural Place; which Callus is formed of that Mucilaginous Humour, which nourished the Part.

CHAP. IV.

Of the Luxation of the Shoulder.



The Shoulder-Bone is inserted by a *The Description of the Articulation.* round Head, into the Shallow Cavity of the Scapula, that it might easily move any way, as occasion required. It is kept in it's place Upwards, by the Acromion and the Process Anchiformis, and the broad end of the Clavicle, which being extended, over the latter to the Edge of the former, makes the distances stronger; being also tyed by a strong Ligament, which runs transversly from the Processus Anchiformis to the Acromion. It is likewise bound with a strong Circular Ligament, which involves the whole head of the *Os Humeri*; as also by a Tendon from one of the Heads of

Z the

the Biceps, which passing through a Notch in the Head of the Humerus, is inserted into the Head of the Scapula; It is also strengthened by the Deltoides, which lyes over all, and binds them so fast, that the Bone will sooner break than these give way to a direct pressure Internally and downwards it is guarded, not only by it's Posture, but the Muscles that retain it, as the Tendon of the Biceps *Externus Subscapularis* and *Rotundus Minor*. When dislocated it passes into the *Axilla* betwixt the Tendons of the *Subscapularis* and *Biceps Externus*. It is dislocated with a great deal of difficulty any other way.

The Cause. The *Os Humeri* is dislocated, either by some external violence, or internally by a Flux of Humours, which relaxes the Muscles and Tendons, and makes it apt to slide down into the *Axilla*.

Signs.

If it fall into the *Axilla*, a Cavity appears upon the Head of the *Scapula*, and the Head of the *Os Humeri* may be felt round and hard in the *Axilla*; the Persons elbow hangs from his side, and cannot be brought as close as the sound one without much Pain; he cannot bring his hand to his Mouth, nor stretch it out against any thing. If the Head of the Bone be pressed inwards, a Cavity will appear behind, and a Protuberance forwards; the Elbow hangs backwards, and cannot be moved forwards without much uneasiness. If the Dislocation proceeded from an inward Cause, the Arm will be emaciated, and the reason discovered by the Person.

Chap. IV. Of the Luxation of the Shoulder. 339

When it is occasioned by an External Cause, ^{The Prog-}
it is easily reduced in Children and Soft Bodies, ^{nosticks.}
but in grown People and tough Constitutions, it
is hard and difficult, and sometimes they become
Paralytick and Emaciate; but if taken care of in
due time, they recover. If Part of the *Capsula*
be broke, the reduction is very difficult: Luxati-
ons made by Fluxion are easily reduced, but not
easily retained in their Place.

The *Os Humeri*, is either reduced by Hand, ^{The man-}
Bandage, or the force of Instruments. He that ^{ner of Re-}
would reduce it by Hand, must reverse the Mo- ^{duction by}
tions of Nature; and since in Dislocation it first ^{Hand.}
passed forwards, till it came past the edges of the
Capsula then fell down below it, and was then pul-
led back by the Muscles; in Reduction it must be
first brought forwards, then upwards, and then
thrust in: This Method will do in Children;
but in grown Bodies, the Patient is to be placed
in a low seat, and his fingers being clapped un-
der his Arm-pit, his Knee or Thigh is to be pla-
ced on the outside of his Elbow, & his Head to the
point of his shoulder. By his fingers bent strong-
ly together, the Bone will be pulled forward and
upward, by his Thigh or Knee, pressing his El-
bow to his side, they will also both raise it, and
bring it forwards; and his Head will press down
the *Scapula* that it will not rise with the Bone: the
Elbow being thus pressed by the Person, or another
Man, and brought back to the Spine, the Pati-
ents other Hand must be placed under the *Axilla*
to raise the Head of the *Humerus* forwards and
upwards, the Surgeon in the mean time pressing
down the *Scapula* to receive the Bone. The Head
of the *Os Humeri* being distorted forwards under
Part of the Pectoral Muscle, his Elbow must be
drawn backwards, and held close to the Spine;
Z 2 whilst

340 *Of the Luxation of the Shoulder. Part V.*

whilst the Head of the Bone is pressed upon with both the Surgeons Hands.

Another way of reducing a dislocated Shoulder by the Hand is, by hanging the Person by the Luxated Arm over a Lusty Man's Shoulder, bringing his hand over to his Breast; and if the Patients weight is not enough to make Extension, he may be pulled down by another Person.

The manner of Reduction by Bandage. The Method of Reduction by Bandage, is by a Girt with a Bolster in the middle, both ends being made fast together; that part of the Girt with the Bolster is to be put under the Patients Arm pit, and the other over the Surgeon's Neck, whilst another sitting upon the Patient, pulls his Arm backwards; The Surgeon in the mean time raising up the Humerus, and pressing with both his Hands upon the Head of the *Scapula*.

Another way by Bandage is, to lay the Patient on his Back, whilst the Surgeon sitting behind, with the Girt under his *Axilla*, makes Extension: at the same time, another lying along the Patients side, is to press with his Heel against the Bandage, pulling the Person by the Arm all the while with all his force.

By Instruments. Instruments made use of for the Reduction of dislocated Shoulders, are a Ladder, a Coulstaff, Pulleys, *Glossohomium*, &c.

To make Extension by a Ladder, the Patient is to climb up three or four steps, putting the Dislocated Arm over one of the Staves, betwixt his side and the Head of the Humerus, a Lusty Man pulling his Arm down, on one side the Ladder, backwards, whilst he hangs on the other.

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Inter
bou

In the Reduction by a Coulstaff, the following Method is to be observed. The Staff being made with a Bunch in the middle like a Wedge, it is to be covered with a soft Bolster, and the Patient being placed near some post convenient to fasten a Pulley to, the Bandage must be made a little above the Elbow, and the Coulstaff placed under the *Axilla*, supported by a Couple of Lusty Men, the Surgeon standing on the other side with his Hands on each side of the *Scapula*, to press it down and keep the Patient fast in his seat, taking care likewise, whilst the Extension is making to keep the wedge in the right place, lest the Bone should be broke or any other Accident happen.

A *Glossocomium* is to be used only in strong Bodies, which require strong Extension, or in Dislocations of long Continuance.

CHAP. V.

Of the Luxation of the Joynt of the Elbow.



The Joynt of the Elbow is made by *Description*
the Concurrence of the *Os Hu- of the Ar-*
meri, the *Ulna* and the *Radius*. *ticularize.*
The *Os Humeri* terminates to-
wards the Elbow, with a Broad
head and double, and internally
receives the *Ulna*, externally the *Radius*. The
Internal head is made smooth with a Gristle, a-
bout which the Cavity of the *Ulna* is moved, and
when

Of the Luxation of the Elbow. Part.V.

when the Cubit is extended, the Process called *Olecranon* or *Ancon* is inserted into the External Cavity of the Humerus, betwixt the two Heads; and when the Arm is bent, the less Process, is also inserted into the inward Cavity of the Humerus. The radius in the mean time turns upon the outward Head of the Humerus with a small Cavity, which is round and almost flat. Into these Heads several Muscles are inserted; all the Extensors of the Hand and Fingers rising from the External Protuberance, and the Flexors from the Internal. The Joynt is not only tyed by it's Articulation by *Ginglymus* of the *Ulna* with the *Os Humeri*, but also by a strong Ligament, and bound fast by several Muscles. Internally by the strong and thick, though soft end of the *Brachialis Internus*, a soft fleshy Substance interposing betwixt the Tendon and the Joynt, that the Tendon and Joynt might not incommode one another in Motion. This Tendon is assisted by the Tendon of the Biceps, as also the Tendon of the *Pronator Radii teres*, and *Supinator Congus*. The External Part is guarded by the Biceps and *Brachieus externus*, which uniting together have a Fleshly Inside, but a strong broad Tendon fastened to the outside of the *Olecranon*. The Joynt is also strengthened by the *Anconaeus*, which extending it self from the end of the Humerus obliquely transverse is inserted into the *Ulna*.

The Radius is also tyed fast to the side of the *Ulna*, and to the Humerus, by a Circular Ligament that involves the Joynt, and a broad one that ties it and the *Ulna* together. This Joynt, though so firmly connected, may be dislocated inwardly and outwardly, and on both sides laterally.

Chap.V. Of the Luxation of the Elbow. 343

If the Luxation be forwards, the Arm hangs outwards, and cannot be bent. A protuberance appears on the Inside, and a Cavity where the Elbow should be. If the dislocation be outward, the Arm will be curved, and the Cavity will appear Internally. If the Dislocation be Lateral, there will be a Cavity on the opposite side.

This Joynt is seldom Dislocated, and when it happens, it's difficult to reduce. If either of the processes be broke the Cause is desperate.

When the Cubit is dislocated forwards, the Arms must be extended obliquely, lest the process of the Ulna be broke. When the Bone is to be reduced, one is to hold the Os humeri, another to pull the Arm. whilst the Surgeon having placed a Boulster with a Girt or Styrup upon the bend of the Arm, makes extension with his foot, and guides the Bone into it's place. If the Luxation be backwards, extension is to be made as before, the Muscles of the Cubit being first embrocated with Lenients, that the Parts may more readily give way to Extension. Whether the Part be reduced by Hand or other Instruments, after Reduction, it will be requisite, to apply Astringent Restrictives to prevent Fluxion and Inflammation, to which, Parts that require so great Extension are subject to.

C H A P. VI.

*Of the Luxation of the Carpus Metacarpus
and Fingers.**Description
of the Ar-
tication.*

The Carpus contains several Bones, of which one lyeth out of order; Three of them Articulate with the processes of the Radius and Ulna, and four to the Metacarpus, being bound together with a strong Ligament, which makes the Articulation more firm. Yet these Bones may be displaced, either all together or separately; Internally, Externally, or Laterally.

*The Diag-
nosticks.*

This Luxation is evident by the Tumour formed by the displaced Bone, and also by the Motion of the Fingers, the Muscles opposite to the protuberating Bone, loosing their Power of Contraction or Extension, the Antagonist Tendons being stretched out by the Dislocated Bone. If the Luxation be Lateral, the Hand inclines accordingly, either towards the Thumb or little Finger.

*The manner
of Reducti-
on.*

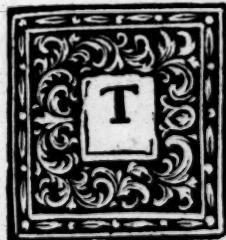
In the Reduction, the Hand is to be laid flat upon a Table, extension being made both above and below, the protuberant Bones being pressed down at the same time into their proper places. The Bones being reduced, the Hand is to be dressed with Restrictives, Compress and Bandage, and placed upon a Férula.

The

The Fingers may be Dislocated, backwards, forwards or laterally. When they are dislocated, it is evident to sight, they may easily be reduced by Extension, and retained so by Restrictives and Bandage.

CHAP. VII.

Of the Luxation of the Hip.



The Joynt of the Hip, is made by *Description* the Head of the *Os Femoris* joyned *of the Ar-* to, and received by the *Acetabulum* *tisulation.* of the *Os Ischion*. They are joyned together by two strong Ligaments; one External and Membranous, which involves the whole Head of the Femur, being extended from the further end of the Neck, where it touches the great Trochanter; to the *Acetabulum*, to whose edges it is firmly connected; the other Internal is round like a cord, being inserted into the Centre of the *Acetabulum*, and the Apex of the Head of the *Os Femoris*. This Articulation is confirmed by very strong Muscles: Externally by the three *Glutei*; Internally by the *Ereps* and the *Rotators*; yet it is sometimes dislocated by external force; or by a great Weight, the undue Position of the Thigh concurring. It may be dislocated outward, inward, forwards and backwards. And sometimes by the Relaxation of the Ligaments and Tendons by Congestion of Humours about the Joynt and in the *Acetabulum*.

In

*The Diag-
nosticks.*

If the Dislocation be Internal, the Head of the Femur may be felt a little beneath the Groin. The Leg will also appear longer than the other, the Knee and Foot being turned outward. If the Dislocation be external, the Leg will appear shorter than the other, and the Toes turned inwards. If it be Luxated by Relaxation, the Leg hangs commonly downwards directly, and turns either way being loose, and weak and emaciated.

*The Prog-
nosticks.*

Luxations of the Hip are difficult to reduce, and hard to retain in their Places. The Membranes being very much extended or broke. If it be not reduced it occasions violent Pain and great Fluxion, the greatness of the Bone making a great pressure and extension of the Muscles. Yet in some Months the Muscles growing Callous about the Head of the Bone, and yeilding to the Extension, the Person makes shift to go lamely; The Part being emaciated and shorter than the other. When the Dislocation is occasioned by Congestion, it is apt to Apostemate, and the Head of the Bone to grow foul and corrupt, by lying constantly so moist; and the Patient languishing, Dyes emaciated.

*The manner
of Redu-
tion.*

If the Bone be dislocated inward, and the Patient young and tender, it may be reduced by Hand; in order to which the Operator, must lay one hand upon the Thigh, and the other upon the Leg, extending it towards the sound Leg, & then suddenly forcing the Knee up towards the Belly, & pressing the head of the Femur back, the Bone will slip into the Acetabulum. In Bodies where stronger Extension is required, the Patient is to be laid upon his Back on a Table, a thick pin being fixed in the middle, which rising up betwixt his Legs is to be placed close to that Inguen, where the protuberant Bone is lodged; then one is to pull, taking

Chap. VI. Of the Luxation of the Hip.

347

taking hold of that Armpit, and another is to extend by the Leg obliquely towards the sound Leg.

If the Luxation be backwards, the Patient must be laid upon his Belly, and the Pin placed as before, the Pin ought to be pretty thick and covered with Cotton, that it may not offend the Part with it's hardness. The Extension upwards, may be made with a Towel or Girt placed betwixt the Thighs, and by a Bandage made above the Knee; the Parts below, are to be extended by the help of a Pulley, fastened to the Bandage.

The Bone being reduced, it is to be secured with good Restrictives and Bandage, binding that to the other Leg; and the Patient, then is to be laid in Bed. If the Bone happen to start again, a Second Reduction is not to be attempted, for fear Apostemation should be induced; especially since there may be hopes of the Part recovering strength to walk upon it, though it should never be reduced.

If a Luxation be made by Relaxation, the Part is to be fomented with Discutients and strengthening Medicines, and Emplaisters; as also the Superfluous Serum is to be discharged by *Epispasticks*, *Fontanels*, &c. and the Habit of the Body is also to be corrected, with proper Alteratives to strengthen the Crasis of the Blood and Serum. If it Apostemate it is to be treated accordingly.

CHAP.

CHAP. VIII.

Of the Luxation of the Knee.

The Description of
the Articulation.



The Articulation of the Knee is composed of the Connection of the *Os Femoris*, the Upper Head of the *Tibia* and *Patella*. The first is inserted by a double Protuberance into the two Cavities of the Latter. The Joynt is likewise strengthened with the broad Expansion of the Tendons before, which run over the *Patella*, and are inserted into the *Os Tibia*. Behind it is strengthened by the Tendon of the *Biceps* outwardly, and of the *Sartorius gracilis*, *Seminembranosus*, and *Seminervosus* inwardly. This Joynt is not dislocated forwards without great violence, but backwards on each side, it may be totally or half dislocated.

The Diagnosis
nosicks.

Luxations of the Knee are evident to the sight, a Protuberance appearing on the one side and a Cavity on the other.

The method
of Reduction.

These Dislocations may be reduced by a Moderate Extension, especially those that are Lateral. If it be dislocated backwards, moderate Extension is to be made, then bend the Leg suddenly backwards, bringing his Heel to his Buttocks, and the Part will return into it's place. Then embrocate the Parts affected, and apply Astringents with good Compress and Bandage.

CHAP. IX.

Of Luxation of the Ankle-Bones.



The Extremities of the *Tibia* and *The De-*
Fibula are joynd with the *Os* ^{scription of}
Tali by *Ginglymus*. The Internal ^{the Articulation.}
Ankle is formed by the *Tibia*, and
the External by the *Fibula*, under
the *Talus*, the *Os Calcis* lyes;
and the *Os Cymbiforme* before it, without which
the *Os Cybiforme* is Joynd to the *Os Calcis*; be-
tween the *Os Cymbiforme* and the *Metatarsus* lyes
the *Ossa Cuneiformia*. This Joynt is tyed toge-
ther by strong Membranes and Ligaments, and
strengthened by several strong Tendons, which
are joynd and bound together with the Liga-
ments.

If the Ankle be dislocated inwards, the sole ^{The Diag-}
of the foot is turned outwards, and on the Con- ^{nosticks.}
trary when it is dislocated outwards. If disloca-
ted forwards the great Tendon of the Heel is
hard and stretched out, and the foot seems shor-
ter than it should be. If backwards the Sole of
the Foot seems longer, the dislocated Bone lying
over the Heel: As these Signs appear more
or less, the Dislocation is perfect or imper-
fect.

These

*The Prog-
nosticks.*

These dislocations are easily reduced; yet as they are depending Parts, and weakned by the extraordinary extension of the fibres, they are subject to Tumour, Pain and Echymosis; and the Part is long before it recovers it's Tone again.

*The man-
ner of Re-
duction.*

The Reduction is made by a gentle Extension, one taking hold of the Foot and another of the Leg, whilst the Chyrurgeon presses the Bone in to it's place, the reverse way to what it came out. If the Extension made by hand is not sufficient, the Pulley or other Instruments may be made use of. The Bone reduced, Astringents with Bandage are to be made use of.

Sometimes the Ankle slips out laterally by a Relaxation of the Tendons, which if reduced is apt to slip out again by the least Accidental force, but by the use of Astringents, and by keeping the Part free from any Strain, for sometime, the Part will gradually recover its lost Tone and gather strength.

The Bones of the Metatarsus and Toes are often fractured, but seldom dislocated, being bound fast by so many strong Tendons; but when they are out of place they are to be reduced as the Bones in the Metacarpus and Fingers.

CHAP.

CH A P. X.

Of the Luxation of Spine.



THe Dislocations of the Spine, *which may be remedied.* which are occasioned by weakness, are to be cured by Internal Medicines, and the Application of proper strengthening Plaister externally, which may be also assisted by good Bandage.

When a Dislocation happens to be made by any External Violence, it must speedily be reduced ; but such Cases seldom happen.

Having in the preceding Chapters shewn how *The Reason of External Applications in dislocations. And their Effects.* Dislocations in General, and also how particular Dislocations are to be managed in order to the restoring the Part affected to its Natural State, to conclude this Part, we shall briefly consider the Reason of those proceedings ; and first, since the Parts affected by the Dislocation must needs have their Fibres much vitiated in their Tone, by being so violently extended so as almost to loose their Continuity ; when the Parts are by extension reduced into their Natural Posture, it is but reasonable they should be there retained ; and since Bandage and Position are requisite and proper, yet the Fibres being so much relaxed, might reasonably give way to the Influx of Humours, and receive them betwixt their Parts, separated in some Measure by that violent distension. But to assist Bandage in expressing that which might be already collected, as well as to prevent the Influx of more, Astringent Repellents, are with Reason

Reason applyed, which not only prevent the Influx of Humours, but likewise contract the extended Fibres, and along with Bandage help to restore their lost Tone, and therefore they are to be continued as long as there is danger of their being extended again with Fluxion; but when that danger is over. and the Fibres have recovered their Natural stricture, strengthening Medicines are to be applied to confirm the Parts in their Tonick stricture. How Astringent Medicines produce their Effects, hath been shewn in the First Chapter of this Book of Tumours in General, which we shall not here repeat. And how strengthening Medicines produce their Effects may be easily understood, if we consider, that their subtle and warm Effluvia Discuss whatever may be lodged in the Part, and keep its Fibres from adhering in their due strict order; and as they strengthen the Parts by removing superfluous humours, so do they likewise by recovering and preserving the Natural Heat, by which means the Fibres are confirmed in their Natural Temper and Tone.

AN

A N

INDEX

OF

MEDICINES.

A

115, 135, 208, 243, 246,
265, 280.

- A** *Bsintium* sum. 25, 36, *Althæa* Sum. 48.
47, 57, 82, 96, 98, *Althæa* sem. 59, 224.
121, 126, 127, 218, *Aloes*. 38, 85, 180, 237,
224, 243, 266, 280, 282. 268, 272, 274, 280, 243.
Abrotanum. 26, 98. *Alumen*. 197, 211, 225, 258,
Abietis Resin. 271, 290. *Alumen* ust. 273. (265.
Acorns. 21, 99, 126. *Aloes* lign. 99.
Acetum. 21. *Ammoniac*. gum. 26, 32, 59,
Acacia. 320. 67, 106.
Acetosa 53, 135, 138. *Amydg. dulc.* 36, 59.
Adders Tongue. 236. *Ammoniac*. Sal. 108.
Egyptiac. mel 73, 202, 272, *Anseris axung.* 25, 26, 32,
274. 47, 78, 107.
As ust. 76, 184. *Anethi* fl. 26, 99.
Eris Squamma. 76, 184. *Anethi* sem. 261.
Erugo ferri. 184. *Anethi* sum. 47.
Eris viride. 224, 225. *Anatis axung.* 26.
Agarick. 39, 97, 105. *Anethi ol.* 47, 57, 126, 142.
Agni Sevum. 56, 57, 132. *Anthos*. 93, 99, 112, 265.
Agrimony. 97, 112, 114, 130, *Anisi* sem. 121, 142, 261.
217, 225, 236. *Apii* rad. 97, 115, 180.
Agregativ. pil. 105. *Apii* fol. 243.
Alibæ rad. 25, 26, 31, 36, *Aristolochia* 38, 67, 169, 275,
48, 57, 59, 62, 75, 106, 282.

A a

Artemisia

An INDEX.

Artemisia. 276.
Arsenicum. 310.
Asii sem. 258.
Argentum viv. 50.
Arabick gum. 113.
Arcanum Corallinum. 132.
Armoniaci sal. 139.
Affa fatid. 181, 215.
Asparag. rad. 248.
 — *sem.* 258.
Antimonium. 89.
Arari pigmentum. 90.
Aurantior. flaved. conf. 93.
Avens. 236.

B

B *alust.* 21, 46, 82, 99, 127, 158, 265, 273.
Bdellium. 26, 32, 106.
Betonica. 260, 265, 276.
Bisfort. 159.
Bel. Armen. 21, 46, 82, 85, 89, 237.
Borago 53, 73, 112.
Pryon. rad. 26, 31.
Branca ursina 48.
Prasica cin. 99.
Butyr. recens 31, 75.
Bugloss 73.
Bursa Pastoris. 85.

C

C *Affa.* 19, 46, 54.
Cadmia. 38.
Cappares. 31.
Cancr. 48, 112, 114.

Camphora 56, 114.
Calx. viva 76, 225.
 — *extinct.* 89, 158.
Calcanthum 89.
Calaminth. Sum. 98, 127, 273.
Calcis aq. 263.
Caryoph. Syr. 93.
Card. Benedict. 95, 243.
Calamus Aromat. 56, 99.
Carui sem. 97.
Castor ol. 98.
Caryophyl. rad. & fol. 112.
Cantharides 225.
C. C. ras. 131.
C. C. ust. 195, 213.
Centaurium min. 26, 97, 281.
Ceruss. 54, 56, 88, 113, 116.
Cepa. 67, 69.
Catellor. ol. 279.
Cauda equin. 294.
Ceterach. 112, 114.
Cham. fl. 25, 36, 47, 57, 82, 98, 99, 121, 124, 208, 218, 246, 260, 265, 280.
Cham. ol. 25, 47, 57, 69, 82, 99, 142, 262.
China rad. 40, 213.
Chelidonium. 89, 108, 112.
Citri sac. syr. 53.
Chichor cum Rheo Syr. 54.
Cicuta sol. 60, 106.
Ciceris farin. 115.
Cichor. 131, 133, 236.
Cinnamomum 130.
Cinnab. 132.
Cort. Citri cond. 93, 224.
Cinquesoyl. 236.

Colum

An INDEX.

Alumini Stercus. 67.
Ariandri succus. 114.
De Corde Cervi os. 112.
Crocus. 31, 32, 36, 47, 59, 69, 75, 115, 271.
Creta. 184.
Culophon. 138.
Consolid. rad. 262.
Cornifrey. 236.
Cornium raspat. 306.
Cypress Nuts. 21, 99, 126, 237, 265.
Cydonior. sem 25, 191.
Cucumer. agrest. 26, 106.
Cymini sem. 26, 82, 98.
Cydon. Mucilag. 54.
Cydon. Cons. 262.

D

Dauci sem. 98.
Dens Leonis. 138.
Decoct. pectoral. 258.
Decoct. Traumat. 262.
Diarhod Species. 93.
Draconium. 73.

E

Ebuli rad. 26.
Ebuli cort. 97.
Ebuli succus. 121.
Eboris rasura. 131.
Elect. Lenitiv. 19, 46.
Diaprun. 19.
Diacassia cum manna. 19.
E suc. rosar. 39, 54.

Diacatholicon 46, 54.
Elaterium. 19.
Elixir proprietatis. 93.
Elemi gum. 180, 202, 237, 279.
Emplast. de Bolo. 21, 115, 195, 267.
de Minio. 21, 195.
de ranis cum Merc. 26.
de baccis Lauri. 26, 127.
Cicuta cum Ammoniac. 26.
de Mucilagibus. 32, 47.
Diachil. cum Gum. 32, 59, 62, 67, 106, 108,
Diacalcit. 36 46, 75.
Oxycroceum. 47.
de Melilot. 62.
Vigonis 266.
Diachyl. ireat. 47.
Casaris. 81, 85.
de Batonica. 127.
Cephalic. 127.
Diafulph. 127.
de Mastich. 224
Enula campan. 26, 130, 131, 135.
Endiv. fol. 138.
Endiv. aq. 153.
Equisetum. 19, 28, 69, 158, 262.
Epithymum. 105, 112, 131.

An INDEX.

F

F *Anugrac. sem.* 25, 26, 133, 210, 213.
31, 36, 47, 57, 82, *Glycyrrhiz.* 259.
106, 280.

Faniculo rad. 97.

— *sem.* 97.

— *dulc. sem.* 261.

Fabar. fl. 25.

Farina fabar. 47, 57, 82, 98, 262, 265.

Farina Volatilis. 82.

Ficus. 59, 67.

Filipendula. 112.

Fimms equinus. 296.

Fumaria. 138.

Furfur. 280.

G

G *Ambag.* 19.

Granator. cortex. 21, 46, 76, 88, 158, 273.

Gallin axung. 25, 48, 57, 59, 75, 159.

Galbanum 26, 32, 59, 67, 106, 108.

Galen pulv. 35, 87, 278.

Galen cerot. 54.

Galle 82, 126.

Galang. rad. 138.

Garyophil. ol. 201.

Gentian. rad. 67, 112, 280.

Aq. Gent. Comp. 93, 105.

Genist. fl. 97.

Geran. suc. 116.

Golden rod. 236.

Graminis rad. 138.

Granator suc. 88, 106.

Guajaci Lign. 40, 96, 131.

H

H *Ermodaet.* 39.

Granor. Hermes. 271.

Hord. farin. 25, 46, 82, 115, 262, 265.

Hord. decoct. 46.

Hyperici sum. 26, 276, 280.

Hyperici sem. 271.

Hyperici ol. 273.

Hyacinth Species. 73.

Hyosciam fol. 73, 75.

I

J *Alap.* 30.

Jalap Rez. 131.

Irinum ol. 25.

Iridis rad. 26, 38, 97, 100, 181, 201, 268, 280.

Junip. bac. 26, 98, 121, 135, 142.

Jujubes. 259.

Junip. farin. 243.

— *Ground Ivy.* 236.

— *St. John's wort.* 236.

L

An INDEX.

L

131

L Actuca. 20, 53, 113, 114, 124.
 Lauri bac. 26, 98, 121, 135, 142.
 Lamium. 85.
 Lauri ol. 90, 98, 121, 126.
 De Lateribus ol. 126.
 115 Lapathum acut. 131.
 Lapis Calaminaris. 224.
 Ladies Man:le. 236.
 280 Labdanum. 270, 320.
 Lentium farina. 25, 47, 224, 266.
 Horfe Leek. 20.
 Lapis Infernalis. 35.
 Lini semen. 25, 26, 31, 36, 47, 48, 57, 59, 62, 69, 75, 106, 139, 208, 224, 243, 265.
 Lini ol. 25, 56, 69.
 Lil. alb. rad. 31, 48, 57, 59, 69, 106, 138, 208.
 280 Lil. ol. 36, 38, 48, 59, 106, 209, 279.
 135 Limon Syr. 53.
 Lingua Canis. 89.
 Linaria. 112.
 Limacum pulv. 112, 114.
 Lens Palustr. 114.
 Pil. Leporis. 274.
 Liquoritia. 1, 1, 138.
 Lil. conval. 276.
 Linimentum Arcaei. 184, 237, 267, 268, 272, 274, 279.

Lumbricor. ol. 25, 47 69, 82, 209, 279.
 Lujule cons. 72, 112.
 Lupin. farin. 181.
 Lytharg. Auri. 54, 57, 89 90, 113, 139.
 Lytharg. Argent. 89, 90.
 De Lap. Lazuli pil. 105.

M

M Anna. 19, 46, 54, 78, 131, 236.
 Mandragora. 21.
 Malva. fol. 25, 31, 36, 47, 59, 75, 115, 138, 208, 243, 246, 265.
 Mastich. 38, 116, 118, 202, 273, 279.
 Marrhubium. 97.
 Marjoran sum. 99, 106, 121, 124, 126, 135, 142, 218.
 Mace. 130.
 Marjoran. ol. 142.
 Martis coc. Astring. 184.
 Melilot. fl. 25, 26, 47, 106, 280.
 Mel commun. 26, 31, 38, 47, 99, 127, 215, 268.
 Mercur. fol. 31.
 Merc. precip. Rubr. 38, 75, 76, 117, 180, 197, 211, 213.
 Merc. Sublimate. 90, 310.
 Merc. Dulcis. 131.
 Mercurius vivus. 132, 135.
 De Meconio Syr. 46.
 Medulla. 57.

A a 3

Mille-

An INDEX.

Millefolium. 85, 89, 237.

Milii sem. 273.

N. Mosch. cond. 73.

Az. Mirabilis. 93.

Mouſe Ear. 236.

Mulberries. 21.

Mundificativ. ex Apio. 38,

59, 217.

—— *Paracels.* 38, 130, 211,

217, 243.

Munna. 83.

Myrt. ol. 21, 46, 47, 54, 82,

89, 265

Myrt. bacc. 46, 121, 124,

126, 195, 217.

Myrt. fl. 82.

Myrobalanes. 224.

Mugwort. 236.

Myrrh. 38. 56 180 217.

224, 225 243, 268, 272,

279, 280.

N

N *Ardin ol.* 29.

Nitri Sal. 26.

Nucum ol. 296.

Nymphæ. fl. 25.

O

O *Livar. ol.* 25, 26, 31,

35, 56, 227.

Ol. Terebinth. 35 38, 213,

270, 279.

Ol. Omphacin. 46.

Olibanum. 56, 122, 180.

Opoponax. 26, 106.

Opium. 35.

Orob. Farin. 57, 73, 224, 243.

Orob. fl. 25.

Origon. sum. 26, 98, 99, 121,

127, 130, 142, 260.

Ostrecor pulv. 184.

Osteocollum. 321.

Ovis sebum. 25.

Oxycrate. 21.

Oxyrrhodinum. 21.

Oxymel. Scillit. 82, 96, 259.

Oxylapathum. 130.

P

P *Arietaria.* 25, 31, 47.

Papaveris Syr. 46.

Paralyf. 46.

Petroleum. 26.

Petroselin rad. 97, 258.

Persicor. fl. 97.

Peru. bals. 132.

Pencedanum. 201.

Pil. ex Duobus. 19.

Pil. Coch. 13.

Pix Burgund. 67.

Piper. alb. 73.

Pini cortex. 78.

Pini Resin. 195, 202.

Pilosella 85 252.

Pix Navalis 106, 108.

Pimpinella 112 130, 217, 262.

Periwinkle 236.

Plantag. 20, 25 47. 60, 85

89, 112, 113, 115, 195

213, 224 236, 237, 243

262.

Plumbum ust. 56, 113, 116

An I N D E X.

184, 195.
Polypody 131.
Polytrichum 258.
Poppies 21, 47, 113.
Porci axungia 25, 31, 48, 69,
 78, 89, 106, 132, 224.
Polygonum 54.
Primula veris 276.
Psyllium 54, 138.
Psyllii sem. 21, 54, 59, 62,
 75.
Purslan 21, 53, 54, 113,
 224.
Pulegium 26, 98, 260.

R

R *Anar. pulv.* 112, 113,
 114.
Ranar. ol. 113.
Rhabarb. 46, 54, 83, 131,
 138, 236.
Rhub. Idæus 53, 195, 213.
Rhod. ol. 135.
Ros. fl. 21, 25, 47, 57, 82,
 99, 121, 124, 126, 127, 131,
 139, 184, 195, 202, 213,
 218, 237, 243, 246, 262,
 265.
Ros. ol. 21, 25, 36, 46, 47, 54,
 56, 60, 82, 87, 89, 114,
 115, 116, 213, 222, 224,
 265, 271, 273.
Rosar. aq. 21.
Rosar. mel. 38, 202, 217, 224,
 225, 271, 272.
Ros. solut. Syr. 54, 19.
Rorismarin. sum. 26, 142:

Ruta sem. 26, 73, 142:
Ruta ol. 82, 98, 99, 121.
Ruta fl. 224.
Ruta sum. 98, 225.

S

S *Anguis Dracon.* 21, 82,
 85, 184, 213, 237.
Sambuci fl. 25, 47, 57, 82,
 99, 106, 112, 121, 126, 224,
 266.
Sambuci ol. 25, 47, 142.
Sambuci cortex 97.
Sambuci Sum. 98.
Saponis Lixivium 35.
Sal. commun. 73, 126, 127.
Salvia 56, 98, 126, 276,
 260.
Sacchar. Saturni 56, 113, 116,
 138, 184, 224.
Sal. Volat. oleos. 93, 105.
Sarsaparilla 96, 131, 133, 210,
 213, 236.
Sassaparilla 96, 131, 133, 210,
 213.
Santalum 131, 133, 213.
Sal. Petra 131.
Sarcocolla 181, 195, 202, 217,
 268, 280.
Sal. Prunella 236.
Savicle 236.
Sempervivum 21, 54, 113.
Scorpion ol. 26, 67.
Scabios. sum. 26, 112, 114,
 133.
Scammon. 39.
Scordium 73, 236, 243, 280,
 282,
 A a 4

An INDEX.

282.

Scrophularia rad. 172.

Scorzonera rad. 130.

Scammon rez. 131.

Sedi Maj. suc. 46, 89.

Senna 19, 46, 97, 105, 112,

131, 138, 236.

Sinap. sem. 67, 185.

Sigill. Solomonis 82, 106,

139.

Spin. Cervin. Syr. 97.

Sloes 21.

Spr. Sal. rect. 77.

Sperma ceti 83.

Spr. sal. Armon. cum Gum.

105.

Sperm. Ranar. aq. 113, 224.

De spic. ol. 126.

Solan. suc. 21.

Solanum 54, 60, 89, 113,

114, 116, 224.

Stercus Columb. 67.

Styrax Liquid. 106.

Stramonium. 114.

Styrax Calamit. 126.

Staphisagrie sem. 135.

Stachad. fl. 265.

Sumach. 21, 126, 131, 184,

202.

Sulphur. viv. 99, 126, 131.

Sulph. ol. 108.

Sulph. Spr. 201.

Symphit. Maj. 202.

Syr. de Rhabarb. 19.

T

T *Amarinds* 19, 46, 54,
138, 236.

Tart. Crem. 19, 46, 54.

Tartat. Sal. 97.

Tapsi rad. 112, 246.

Tartar. ol. per deliq. 112, 236,

276.

Tacamahac. 224.

Tansey Wild 336.

Terebinth. 26, 36, 38, 87,

88, 106, 114, 115, 126,

178, 180, 195, 202, 237,

243, 268, 279.

Terebinth. venet. 38, 180,

271.

Terra sigillata 76, 83.

Thymi sum. 26, 126.

Thus. 38, 78, 85, 116, 178,

180, 195, 202, 215, 224,

237, 243, 270, 274, 279.

Theriaca 67, 73, 114, 116,

274.

Theriacalis aqua 73.

Tritici farina 31, 36, 47, 48,

69, 115, 224.

Trifolium Palustre 54.

Troch. alb. Rhasis 56.

— *Musa.* 76.

— *Andron.* 73, 76.

— *Polyd.* 73.

Herb. Trinit. 236.

Tormentil. 112.

Tussilaginis fol. 31.

Turbit. 97.

U

An INDEX.

U

V Acci seuum 25, 89, 106, 195.
Valerian. 226.
Veronica 130, 276.
Verbascum 138.
Vervein. 236.
Violar. fol. 25, 115, 243, 246, 138.
Vitulin. seuum 25, 54, 57, 89, 106, 113.
Vitriol. Roman. 35, 184.
 — alb. 131.
 — ust. 225, 282.
Vincetoxitum 302.
Ulmi cortex 195.
Urtice aq. 290.
Unguentum rosat. 21, 77, 90, 132, 222.
 — *Popul.* 21, 54, 89, 113, 132, 187, 214, 222.
 — *Alb.* 21, 89, 113, 132, 187, 195, 214.
 — *Nutritum* 21, 54, 89, 113, 132, 187, 195, 214.
 — *Arragon* 26, 82.
 — *Martiatum.* 26.
 — *Basilicon* 35, 38, 48, 60, 69, 75, 117, 178, 180, 187, 211.
 — *Calaminaris* 180.
 — *De Althæa* 36, 99, 209.
 — *Enulat. cum Mercurio* 135.

— *Aegyptiac.* 201, 20211, 213, 282.
 — *Refrig. Galeni* 203.
 — *De Lythargyro* 213.
 — *E Plumbo* 113, 187, 213.
Unguentum Rubr. desicativ. 39, 89, 195.
 — *Calcis* 39, 187, 213.
 — *Sumach.* 81.
 — *Diapompholygos* 89, 180, 187, 211, 213.
 — *Tutia* 89, 113, 116, 117, 132, 180, 187, 203, 212, 224, 225.
 — *Apostolor* 211, 217, 280.
Vinc. pervinc. 85, 137.
Vinum benedict. 96.
Sum Vitis. 89.
Vitrio. sal. 36.
Vitriol. al. 108, 201.
Vitriol. Hungar. 108.
Vitriol. Tinct. dulc. 117.
Umbelic. Veneris 54, 113.
Urtica sem. 67.
Uvæ passæ 59.

W

W Ine red 21, 46.

Y

Y Arrow 236.

F I N I S.



ERRATA.

Pag. 19, for *Diapraen.* read *Diaprun.* for *help to loosen*, r. *helps to loosen*. pag. 21, for *Cypress, Nuts* r. *Cypress Nuts*. pag. 25, for *Absynth.* r. *Absinth.* pag. 48, for *Croci 3ii* r. *Croci 3ii* for *Cancar*, r. *Cancror.* pag. 56, for *Oedemators*, r. *Oedematous* pag. 67, for *Fricus*, r. *Ficus*. pag. 73, for *Syr. & Citri*, r. *Syr. de suc. Citri*, pag. 76, for *Squammæ Ceris*, r. *Squammæ æris*. pag. 81, for *Ung. Tumach*, r. *Ung. Sumach*. pag. 121, for *bac. Cauri* r. *bac. Lauri*. pag. 126, for *balvast.* r. *balust.* pag. 204, for *rad. gros.* r. *rad. ireos.* pag. 243, for *iros rubr.* r. *ros.* pag. 259, for *Syr. Capill. Veneni*, r. *Syr. Capil. Veneris*. pag. 273, for *Ros. or rub.* r. *Ros. Rubr.* pag. 336, for the figure of an S r. the figure of f.

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